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PREFACE

BLINDNESS 1970 is the seventh issue of an annual published by the American Association of Workers for the Blind under a training grant from the Vocational Rehabilitation Administration, Department of Health, Education, and Welfare. It is our plan to provide a forum for important and timely articles—with depth—in our own field and in related fields. Experts in the many categories of work with blind persons will be commissioned to conduct the essential research and prepare the articles so that their continuing value will be assured.

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BLINDNESS 1970

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AN INTERVIEW WITH MISS SWITZER

BLINDNESS ANNUAL 1970 carries a composite listing of 183 research and demonstration projects sponsored by the agency which, for a sizeable part of her 48 years in government, Miss Mary E. Switzer administered, managed, presided over and reigned in: first as director of the Office of Vocational Rehabilitation, next as commissioner of the Vocational Rehabilitation Administration, finally as administrator of the Social and Rehabilitation Service. Though an inveterate innovator, she has remained one of the few constants in swiftly changing administrative patterns, overwhelming social problems and responsibilities, as well as almost equally overwhelming financial resources with which to deal with them.

It is no secret that the financial resources came to her agency through her influence. In the honors paid her with her retirement the Secretaries of Health, Education and Welfare, for whom she had worked, outdid each other in whimsical puzzlement over how she got appropriations for her programs, frequently in spite of them, but leaving no hard feelings. They added to, rather than detracted from, her "mystique" by saying in effect that she had mastered through and through the three prerogatives which Bagehot spoke of with such respect: to know, to warn, to encourage. To watch her do this as she presided over a meeting of her advisory council was like watching an artist at work. No other meetings to transact government business matched hers for charm, though she never forgot what she was doing was government and business. When she said she was "wringing water" out of a budget few had the facts or temerity to suggest she was wringing out blood. It was with this in mind that the Editorial Board of BLINDNESS requested that she give an interview concerning the results of the 15 year research program dealing with the problems of blindness, which she had sponsored along, with similar programs for all other severely handicapped people.

Miss Mary Switzer, presiding at the 46th meeting of the National Citizens Advisory Council on Vocational Rehabilitation. Left to right: Clinton L. Compere, M.D.; Richard C. Coleman, Manager, Corporate Equal Opportunity Program, Eastern Airlines; Miss Switzer; Parnell McLaughlin, Ed.D., Director, Dept. of Rehabilitation, Colorado; Alberta B. Turner, Ph.D., Research Administrator, Ohio Youth Commission; Berthold Lowenfeld, Ph.D., former Superintendent, California School for the Blind; Mrs. Erwin N. Griswold, Member, President's Committee on Employment of the Handicapped.

QUESTION (1). There is a very common impression that you are an accomplished cutter of red tape – along with an impression that you make your own channels for accomplishment of goals. Have you a formula for who should do this, when, where, how and why?

MISS SWITZER. You have to be willing "to stand the gaff" of going against set rules, and be willing to face up to the results if you make a mistake. Anybody who has responsibility, and can exercise it, can do it, though it's easier for the person at the top. But you must know the rules, because you must know the limits within which you can operate. You can't, after all, break the law.

QUESTION (2). *The Washington Post* quotes you as saying you could never be a researcher, yet you are known for your exceptional administrative sympathy with research. Do you think there are qualities in administrators which keep them from being researchers, and vice versa? What are they?

MISS SWITZER. It's seldom that an action-oriented administrator can be a good researcher in the truest sense. But this in no way limits one's understanding of what it takes to *do* research. In fact it makes it possible to set up the milieu or put into effect the mechanisms through which research is done . . . like grants and contracts. You have to feel comfortable in a laboratory. You have to be able to talk the language of research workers. You have to believe in the objectivity of the search for knowledge, and identify with the researcher – and all this is quite possible to achieve.

QUESTION (3). You often speak with affection of what you call your "marginal" projects. What do you mean by a "marginal" project, and what endears it to you?

MISS SWITZER. Marginal projects are usually ideas which are a little ahead of their time, or a little off the accustomed patterns that seem suitable for an agency. A pure researcher might pass them by and often has. But I'm very susceptible to way-out ideas, and can point to those which have become very respectable projects like the theater of the deaf, the museum for the blind, and especially the surgical intervention to stop tremors in Parkinson's disease and cerebral palsy; the latter was accomplished through a project undertaken by Dr. Cooper, a great neuro-surgeon in New York. People thought it bordered on malpractice, but rehabilitation financed it to its great glory. This project had far-reaching repercussions, but our medical members of the Advisory Council had to be cajoled into trying it because "Mary wanted it so much." I would not attempt to describe the scientific aspects of it, the how and why, but I know it *did* stop tremors. And Dr. Cooper's daring encouraged other people to try other methods, after this method had been conventionalized and accepted as standard practice; many neurosurgeons are doing similar operations and trying out similar techniques today. Now it seems to me that if a small program can do this, a big program ought to be able to do it better. I have never felt we should turn down any idea that gave promise of opening up new areas. With "way-out ideas" many projects are indeed marginal, and some of course turn up nothing. The field of research into areas of blindness and substitutions for sight offer a good many examples of this thesis. Our rather extensive "hardware" projects sometimes seem not to have yielded us much, but I believe that when the smoke clears away from some of them, not only will better canes be produced, but some form of electronic signal device to detect obstacles the cane will not. And I cannot believe all the work that has gone into rapid translation of print to braille will not, someday, produce results. Already we have accomplished this for mass production with a computer geared to make use of the tapes large printing houses now employ in making ink-print books and our program helped the American Printing House to get one of these.

QUESTION (4). A lot of people in work for the blind and ophthalmology are distressed by the effects of bitter disenchantment among blind people which may arise from the promise of a crash artificial sight program. How ought this problem to be managed?

MISS SWITZER. With respect to this question of artificial sight, "substitute sight" you might say, I am sure that the worst thing that can happen to blind people is to have extraordinary promises made to them. This is the same situation that exists in cord injury cases. We do not know today how to make a substitute for sight. We do not know how to mend a severed spinal cord, but one day we may, and to my way of thinking we should have good research going on in all these areas and people committed to do it. If we can get to the moon we probably could solve all these problems if we committed enough of our resources to them. It has been suggested to me that "substitute sight" is a problem on the order of magnitude of preventing blindness by disease oriented research and therapy and that is a line which must be followed as well. But that type of search is the business of the National Eye Institute and projects to produce "substitute sight" are more in the rehabilitation area.

QUESTION (5). You have presided over 46 meetings of the National Advisory Council which has approved 183 projects concerning blindness – certainly the most unified research approach to blindness ever made by an agency of government, and you have had this authority over a decade and a half. Do you think this experience has changed your own attitude toward blindness? If so, how. Did you go through stages? If so, can you say what they were?

MISS SWITZER. This fifth question is a rather complicated one and one which has many psychological overtones. It is true that 46 meetings of the National Advisory Council approved 183 projects concerning blindness, and it is also true that this appears now, as we look at it, to be a unified approach. It appears that this is probably the most extraordinary single approach made to research into the problems of blindness made by any agency of Government, and I feel that my own role in promoting this has been considerable. However, I had many good people with ideas working in the field, including some members of the Editorial Board of BLINDNESS. You ask if this experience changes my attitude toward blindness – I don't think so. I think that I have been conscious of blindness as a disability, and excited by the people in the field who devote their talents and intelligence to search for some solutions, but it would be hard for me to describe what my attitude toward blindness is. I have known blind people for a good many decades. They have been people who have made a good adjustment. I have never felt that there should be any special attitude on my part toward blindness as opposed to deafness except that one can argue about which is the more severe disability, as you can about paraplegics or the victims of other disabling conditions: mental illness, mental retardation, etc. I am happy to have the question posed in such a way that it implies a good effect from these projects over a decade and a half, and that we have explored many possibilities. This has led us into work with the deaf-blind. It has led us to try to bring a little unity into blindness and deafness itself and so on. But, no, I don't think I can answer the question, "Did you go through stages?" I really don't think I did, except as one progresses in knowledge through exposure and in dropping formalities or relationships as one does with every person one gets to know better and better.

QUESTION (6). Lately we hear a great deal about involvement of the consumer in programs. Work for the blind is almost a classic example of consumer involvement and consumer leadership, dating far back. Is there anything specific about consumer involvement which you have learned from this?

MISS SWITZER. Now about the involvement of the consumer: I have always felt that the blind were a classic example of where, possibly, the consumer was involved a little too much. Blind people have sometimes had the attitude that nobody really could possibly understand their situation except another blind person; I suppose every handicapped person feels this just as every woman feels a man can't understand her. But this is not entirely true. If you look back over history, the voluntary movement to help blind people was segregated, if you will. It had many blind leaders, but it was not exactly geared to the desires of the blind themselves and even in our own day only certain blind people are concerned with consumer leadership. I feel that the greatest lesson I have learned from my knowledge of program for the blind is the appeal of a visible handicap like blindness, and the ability that it has to mobilize people who care and are committed to work to minimize its consequences. That's really the great lesson.

QUESTION (7). There are those who fear that coverage of the economically disadvantaged in the Federal-State rehabilitation will dilute services for the traditionally physically or mentally disadvantaged. Have you any comment on this?

MISS SWITZER. Well, it may, but we have come more and more to the idea that first of all the public program of vocational rehabilitation has a major responsibility toward physically disabled people and in "physically disabled" I include mentally disabled. I think the lessons of how you accomplish rehabilitation are striking and can be applied to the economically disadvantaged. I certainly don't feel that we should give up responsibility for the physically disabled, especially for the severely disabled – people who have no other agency with primary responsibility for their rehabilitation. But I feel strongly that if the state rehabilitation agencies would organize strong central offices and teams, and young counselors from our training programs could be inspired to try new ways to reach some of the more severely disadvantaged, much could be done. We proved this in the Watts project* and the Wood County project,** and also through the methods developed in the joint Public Assistance and Vocational Rehabilitation efforts now under way. Another plus for our project approach!

QUESTION (8). A great rehabilitation therapist has said response to a personality was the key factor in every severely handicapped person's initial hope of conquering the impediment to his function. Do you agree with this, and if so, how do you recognize people with the capacity to make an art of this?

MISS SWITZER. It is true – one essential ingredient in a successful rehabilitation is the ability of the counselor, or whoever is closest, to arouse a feeling of true confidence in the disabled person that gives the sense of hope and faith in himself necessary to make a "comeback". I do not know how you could identify this quality in anyone by a statement of education and experience – I guess I think it is a matter of feeling and instinct!

QUESTION (9). How do you insure continuation of a demanding program like mobility?

MISS SWITZER. By making sure you have a few people in a few places who can carry the torch in good years and bad; by putting some premium on good programs of mobility and encouraging employers to be more and more conscious of its value and necessity; and by demanding it as a part of services to blind people.

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*RD2089G
**RD1629G

QUESTION (10). Do you think there is any value in implementing administrative procedures which would give due weight to the time consumed by counseling services for the severely handicapped?

MISS SWITZER. I doubt it – it involves too much bookkeeping. I think our figures reflecting actual rehabilitations are about the best we can do. What is a severely handicapped person? Sometimes a person with what seems a minor disability takes more time than one more involved.

QUESTION (11). Have you any thoughts about how the burdens of elderly blind people might be alleviated?

MISS SWITZER. It is most important to see that they are mobile. If they must be restricted in activity, then they should at least be helped to maximum performance in daily living activities. If they need guides to go places, and some of them are always going to, then they should have guides. In fact, I can imagine a really fine volunteer service which made guide service for the elderly blind something to be proud of. This can even lead to some independent mobility in certain cases. For a long time mobility instructors have been thinking one of the best preliminaries to mobility lessons for someone who has been inactive is to have a lot of guiding to gain confidence and get used to moving. It is in such a program as this that we could get a lot of good out of aides as well as volunteers. Good organization would be required plus community involvement. This is another instance of where we have to remember that the people outside the field don't learn by osmosis. Workers for the blind have to get to them and tell their story. As I've often said, those of us in rehabilitation don't get people behind programs by talking to ourselves. I should add that, of course, the elderly should be included in the talking book program but that's fairly well in hand, I believe.

QUESTION (12). Do you think all rehabilitation services should be available to all handicapped people, regardless of their economic means?

MISS SWITZER. Yes, but like everything else, it's going to make a difference if the agency is short of funds. It also seems to me that if someone who is quite well off gets service, he should give something voluntarily, either directly or indirectly. There are always things he can do for the agency or some other handicapped person when, at last, he himself gets on his feet.

QUESTION (13). Would the program of rehabilitation be improved if it were completely federalized, so that there would be uniform entitlement to rehabilitation services in every state?

MISS SWITZER. You don't have to federalize to get entitlement. There ought to be standards, but I'm not sure you ought to federalize to get it. I'm a great believer in the State programs and in doing things locally.

QUESTION (14). How do you get money from Congress?

MISS SWITZER. I can't give away my secrets. Honesty is the best policy, and if you have a good program, as we have in rehabilitation – sell it.

QUESTION (15). Could you tell something about the World Rehabilitation Fund in which you will now participate more fully than you have in the past? Will it have a role in advancing research in rehabilitation of the blind?

MISS SWITZER. The World Rehabilitation Fund, early in its work, deferred to the American Foundation for Overseas Blind. We have not therefore done a great deal in the field except where we have had a contract, but we do cooperate very closely with ideas. An excellent example of how the World Rehabilitation Fund operates is revealed in Rod Kossick's article about the center in South Viet Nam which appears in this same issue of the BLINDNESS ANNUAL.

QUESTION (16). This interview is to be followed in the BLINDNESS ANNUAL by a listing of the 183 projects sponsored in the Research and Demonstration program over which you have presided since its inception 15 years ago. Out of this group are there any particular projects, or constellations of projects, which you would like to commend to the grass roots for adoption, emulation, or development?

MISS SWITZER. That would be mainly the demonstration projects: mobility and optical aids projects are two examples of these. Both have done very well and the services they offer should be available just about everywhere. The "seed money" we have planted in these two programs has taken root, but a little more in mobility than in optical aids. This may be because the optical aids programs were supplied equipment and personnel, but we did not create a special promoter and advocate for the techniques as we did in the case of the mobility programs. Where optical aids were concerned we relied on generic people in the picture to start with, who, in addition to the ophthalmologists and optometrists, were social workers, counselors, a few teachers, and then we used some plain hired help. I believe Dr. Brinkley is telling a little more about this in an article also to be published in this issue of BLINDNESS.

My own special hope is that much more will come of the museum projects – after all tactile experiences are basic to blind people. And as more and more of us who see have great cultural experiences on television, we have to develop as many substitutions for this as possible for blind people. I think the museum people are taking up this idea very well. The California State Arts Commission has developed a traveling exhibit and gallery; it has just left the de Young Museum in San Francisco. Dayton, Ohio, has an exhibit. Brooklyn Museum has been working on a pilot study. The Wadsworth Atheneum at Hartford is working on a project and has done a survey. The Field Museum has made a preliminary visit to our North Carolina project. I also understand that Cape Town, South Africa, has been working on something, and a symposium is planned there for 1970.

There are a number of other areas where we have developed practical programs which only await interested people in the various communities to put them into effect. Our projects to develop jobs for blind people in the computer field is an example. Less dramatic, but equally important, are clerical openings for blind people in medical programs. There we can point to one not inconsiderable item of equipment we have put in the hands of blind people: a braille medical dictionary, and because of its bulk, we have thrown in a shorter medical spelling book with all the words, but not the definitions. Such items as this remind us that we have gotten quite a lot for our ten million dollars. But they won't be any good – they will die on the vine – if all concerned are not aggressive in getting the formulas and methods to the grass roots. I commend to the community of workers for the blind not merely the final reports of our research projects, but the project directors, whose names and addresses are given for they are educated people who represent several hundred concurrent years of thought about blindness.

QUESTION (17). In the "Best of the Past" section of the 1970 BLINDNESS ANNUAL mention is made of the tradition, attributed to Herodotus, that Homer asked the Cumaens for a grant to write poetry, and was turned down. Had you been the Delphic Oracle at that time, and had you been consulted on this question, have you any idea what you might have replied?

MISS SWITZER. Always encourage a poem. It is the purest form of truthful expression.

ENVOI

Before Miss Switzer gave the above answer to question 17, the Editorial Board had already selected the following poem for publication in this annual as a peculiarly fitting description of her influence at the Council table and elsewhere.

NOSCE TE IPSUM

Doubtless this could not be, but that she turns
Bodies to spirit by sublimation strange,
As fire converts to fire the thing it burns,
As we our food into our nature change.

From their gross nature she abstracts their forms,
And draws a kind of quintessence from things;
Which to her proper nature she transforms
To bear them light on her celestial wings.

Thus does she, when from individual states
She doth abstract the universal kinds;
Which then, re-clothed in divers names and fates,
Steal access through the senses to our minds.

Sir John Davies
Inspector General
of Ireland for
Elizabeth I

THE NATIONAL EYE INSTITUTE

— A Status Report —

By Carl Kupfer, M.D.

A new Institute was added on December 26, 1968, to the existing eight research institutes of the National Institutes of Health. Established pursuant to an Act of Congress,[1] the National Eye Institute has a legally defined mission to "conduct and support . . . research for new treatment and cures and training relating to blinding eye diseases and visual disorders, including research and training in the special health problems and requirements of the blind and in the basic and clinical sciences relating to the mechanism of the visual function and preservation of sight."

Background

Prior to that event, research and training in the visual sciences had been supported for 18 years by the National Institute of Neurological Diseases and Blindness[2] on an ascending scale that paralleled, though at some distance, the overall increases in appropriations for the National Institutes of Health. During that time, it should be added, notable advances occurred in eye research and in enlarging the Nation's supply of personnel to carry on this research.

With the passage of time, however, a belief gained ground that the association of eye disease with neurological disorders no longer sufficed to meet the needs or to capitalize fully on opportunities in this field. Many concerned citizens feared that eye research lacked its own spokesman at the decision-making levels of the National Institutes of Health. They felt strongly that a separate institute could best provide a focus for their efforts to bring the story of eye research needs to Congress and the public. Congressional interest in an Eye Institute led ultimately to the introduction of 40 bills in the House during the 90th Congress. At the same time, two similar bills were proposed in the Senate, one of which had 50 co-sponsors. After House hearings in late 1967, in which distinguished vision research scientists were joined by personally interested Congressmen and representatives of voluntary organizations, the bill (H.R. 12843) passed both Houses with enthusiastic bipartisan support.

Enactment of the law conferred upon the Secretary of Health, Education, and Welfare only the authority to create an Institute concerned with the causes, prevention, and treatment of visual disorders. To become a reality, however, the new Institute would require funds and staff over and above those allocated to the vision program when it was conducted as part of the Neurology Institute. Since these resources would normally not become available prior to the fiscal year beginning July 1, 1969, the then-Secretary decided that the program should continue in the interim to be administered by the Neurology Institute. Thus, it was not until a year after passage of the enabling law that the National Eye Institute began to take form as an independent organization. Autonomous status was gradually attained with transfer of the vision program from the Neurology Institute, the appointment of a permanent full-time director, recruitment of key members of the scientific management team and support personnel, and – the ultimate evidence of a Government unit's reality – the availability of an appropriation.

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[1] National Eye Institute, P.L. 90-489, August 16, 1968.

[2] The name of this Institute was changed to National Institute of Neurological Diseases and Stroke through a rider attached to P.L. 90-639, a law dealing with LSD and other depressant and stimulant drugs. The law was signed by the President on October 24, 1968.

Program

The National Eye Institute's program has three major aspects: (1) intramural research; (2) extramural research and training; and (3) biometry, epidemiology, and field studies.

Intramural research. The intramural segment of the program, staffed by 40 investigators and supporting personnel, is located in Bethesda, Maryland. Here, in an environment where productive medical research has become a tradition, facilities for clinical investigations operate in close proximity to research laboratories in pharmacology, chemistry, physiology, metabolism, and experimental embryology. This close association between basic and clinical research permits rapid clinical testing and application of findings from the laboratory bench, as well as a continual feedback from the clinician to the laboratory investigator.

Extramural research and training. The largest portion[3] of the Institute's budget is devoted to grant-in-aid support of research and training at universities, medical schools, hospitals, and research institutes throughout the Nation. The National Eye Institute currently sponsors approximately 350 research projects. By means of grants, the Institute stimulates and supports research on a wide variety of clinical investigations of visual disorders, as well as fundamental studies essential to the advance of clinical practice. Projects vary from the relatively circumscribed activities of an individual scientist to broadly based programs that integrate the effort of groups of investigators in various scientific disciplines. In their diversity, the individual projects range from human population surveys to studies of cells and cellular components.

The new Institute also supports several types of programs to help overcome the extreme scarcity of manpower to conduct eye research and to teach the future generation of investigators and clinicians. Graduate training grants are awarded to institutions to establish, expand, or improve programs to provide research experience and advanced clinical training. In addition, fellowship awards are made directly to individuals whose career development extends from the immediate postdoctoral period through the advanced stages of scientific attainment.

Biometry and epidemiology. Staff of the Eye Institute collaborates with official and voluntary agencies by providing statistical consultation and technical support for their research activities. In addition, a Model Reporting Area for blindness statistics is administered. In this effort, data from registers for the blind in 16 states are collected, analyzed, and published on a continuing basis. Also under way are intensive studies of eye disease among twins, utilizing a registry of over 450 pairs of identical and nonidentical twins in the metropolitan Washington Area. These studies hold promise of disclosing important information on the role of inheritance in glaucoma, myopia, and other visual impairments.

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[3] The FY 1970 appropriation for the National Eye Institute contained $24.3 million, of which sum approximately $22.1 million would be for grants.

Advisory Structure

To carry out its mission successfully, the National Eye Institute relies upon public advisory groups. These groups bring to it the diversity of judgment, outlook, and background that are necessary for planning and conducting balanced and effective programs of research and training.

A first step in developing an advisory structure was the creation early in 1969 of the National Advisory Eye Council, as specifically authorized by Public Law 90-489. One of its major responsibilities, defined in that law, is to review applications for grant support of research and training projects. Indeed, a grant may not be awarded by the Director, National Institutes of Health, unless it has had a prior recommendation of approval by the Council. The members of the Council also advise on matters relating to program and activities in the area of the visual sciences. The Council consists of 12 nonfederal scientists and persons prominent in public affairs, who are appointed for regular terms of four years by the Director of the National Institutes of Health with the approval of the Secretary of the Department.

A second advisory body is the Vision Research and Training Committee consisting of 15 members, all of whom are outstanding vision scientists selected from universities and research institutions throughout the United States. This committee is responsible for the initial review of applications for research program-project[4] grants, as well as for graduate training grants and research career development awards. Initial review is concerned with the scientific merit of a proposal, qualifications of the investigator, the adequacy of available facilities, the relationship of budgetary estimates to the proposed work, and the overall significance of the project in relation to the need for knowledge in the scientific areas involved. By contrast, final review by Council involves an assessment of applications from the standpoint of policy, program needs, and availability of needs, in addition to consideration for scientific merit. The Council also has the benefit of initial evaluation of applications for research project grants by a number of study sections which provide a centralized review service for all the National Institutes of Health.

Finally, the Institute has accesss to a Board of Scientific Counselors. This group consists of six members who are selected from leaders in the basic and clinical sciences related to vision. Appointed for overlapping terms of three years, the Board members give advice on general policy issues, particularly from a long-range viewpoint, as they relate to the intramural research program.

A Look Ahead

Through the combined efforts of dedicated researchers and clinicians, great strides have been made over the last few decades in the management of various eye disorders. The conquest of retrolental fibroplasia is a case in point. In the early 1950's that disease was blinding approximately 1,000 infants a year. A study supported by the National Institutes of Health in 18 cooperating hospitals linked this abnormality to the routine exposure of premature infants to an oxygen-enriched environment. Widespread application of this knowledge virtually eradicated this disease, thereby sparing as many as 20,000 children from a life handicapped by blindness. There has also been progress in other areas. Surgery for cataract is proving safer and more successful as a result of a method for freezing the lens before removal. Discovery a few years ago of the enzyme alpha chymotrypsin to fragment the fine filaments holding the lens in place has also made cataract surgery easier, especially in the older age groups where cataract takes such a large toll in sight.

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[4] A research program-project grant is awarded to an institution in the name of one or more principal investigators for a broadly based and usually long-term program directed toward a range of problems with a central research focus.

This type of grant is in contradistinction to the more common research project grant which is awarded to an institution in the name of a principal investigator for a discrete project representing his own interests and competence.

However encouraging these successes may be, the enormity of the remaining problems should not be forgotten. A greater understanding of the processes of growth and aging is necessary before we can conquer the degenerative diseases. Inheritance is a large factor in many eye disorders as well as other afflictions, and much remains to be learned about preventing congenital defects. Metabolic disorders also pose a threat to good vision. In fact, the conservation of sight will be increasingly linked to the study of disorders in other parts of the body.

It is a fact almost too obvious to mention that blindness has been with us since the beginning of recorded time. It is all too readily identified without sophisticated diagnostic techniques. Nevertheless, despite gains in knowledge over the past 40 years which have taught us more than the previous 3,000 years, we still comprehend little of the eye and how it functions. We know that many diseases lead to blindness, but in a great majority of cases we remain ignorant of the exact cause of the underlying mechanisms producing visual loss. It may help to underscore this puzzling fact by recalling that a widely used reference for statistics on blindness includes such causes of blindness as glaucoma, senile cataract, and myopia under the heading "Unknown to Science."

It is for these reasons that the National Eye Institute must for the immediate future assign the highest priority to expanding the fundamental scientific knowledge from which alone can come the capability to prevent major eye disease. During the coming year, alternative strategies for achieving the goals of the Institute will be explored in detail. Considerable effort will be devoted to research planning and to an examination of directions for future development. This is a tremendous challenge with exciting opportunities for increasing the knowledge needed to conquer visual disorders. The National Eye Institute, as the Federal Government's principal agency for vision research and training, will work in close partnership with the many groups that share a commitment to these goals.

CHANGES IN THE CAUSES OF BLINDNESS AMONG CHILDREN AND YOUTH AND THEIR EFFECTS

By Roy O. Scholz, M.D.

When this title was suggested, the author reviewed the available mass of literature in an attempt to estimate the changes in the number of blind children and youth over a decade. The hope that the literature would suggest the causes or the number of blind in the United States was unfounded. The sampling methods, classification standards, testing techniques, lack of continuous evaluation of the visual status, and the absence of registration of other medical handicaps make the available data for children and youth quite inaccurate. One can only grossly project the changes in the cause of blindness in children.

There have been three studies of blindness made in the United States: The Model Reporting Agency (MRA), the National Society for the Prevention of Blindness (NSPB), and the National Health Survey, from which some estimate of the number of blind in the United States can be projected. The results, which were recently analyzed by Donald A. Schon (1), Table I, show more than a three hundred per cent difference in figure projection.

TABLE I

SOURCE	RATE PER 1000 POPULATION	TOTAL UNITED STATES
MRA Projection to Total (1965)	1.5	290,000
NSPB Fact Book (1965)	2.1	416,000
National Health Survey	5.6	1,090,000

It is recognized by the authors of each survey that accurate projections cannot, for many reasons, be made. Such projections, however, are a general purpose of such statistical gatherings and are essential for agencies and individuals who are planning programs and services for the blind.

The MRA and the NSPB studies have been handicapped by the lack of funds to employ the large staff necessary for complete studies. They have also progressed rapidly and well in refining their techniques. When more funds are available there will undoubtedly be more useful data from them.

An example of the pressing need for accurate projection figures is seen in the present dilemma found by pediatricians treating premature infants. (2) When oxygen administration to premature infants was curtailed from 1954 to 1958, the incidence of retrolental fibroplasia decreased but there was a higher infant mortality from "respiratory distress syndrome" or hyaline membrane disease. (3) Other investigators (4), (5), (6) have shown severe oxygen deprivation in infants with "respiratory distress syndrome."

So, now the pediatrician is faced with a dilemma. (7) Too much oxygen produces retrolental fibroplasia and too little either death from brain damage, or "respiratory distress syndrome."

Is more liberal oxygen administration producing oxygen-induced blindness due to retrolental fibroplasia? Patz has estimated that there were approximately 75 new cases of retrolental fibroplasia in the United States during 1969. It is important to determine accurately the present incidence of retrolental fibroplasia caused by increased oxygen administration. At the present time, there is usually a five to six-year gap before these impaired RLF children appear in school and are reported.

Knowing the need for accurate knowledge of the number of blind children, let us point out a few weaknesses in the available data and suggest some procedures which may help produce more accurate and useful information.

The sampling methods of the three main studies vary greatly. The MRA reports from fifteen voluntary states. (8) The nation's blind population cannot be accurately estimated from their figures, not only because the MRA population was small but also it differed in composition from the nation's blind population. Their sample is gathered from cases which have come to the attention of public authorities under different methods in separate states. They are usually measured only once by medical (ophthalmologists, eye, ear, nose, and throat specialists, and other M.D.'s) or other non-medical (optometrists and others) personnel.

The Fact Book of the NSPB utilizes essentially the same techniques of measurement but relates that some states utilize a slightly different standard of measurement. (9)

Both the MRA and the NSPB samples seem to be weighted in the adult area with few youths and very few children reported. Most of the blind are found after they enter the first grade, or seek aid from a local agency.

The National Health survey of 1935-36 was limited because the definition of blindness used was: "a vision impairment of such a degree that the person considered himself blind." Further, this definition was applied to persons blind in only one eye, as well as those in both eyes. No eye tests were administered. The data were gathered on household interviews and reported according to the respondent's reply.

This endeavor, conducted by the old Division of Public Health Methods, is not to be confused with the more recent studies on eye conditions issued by the more sophisticated National Center for Health Statistics. The struggle of this agency to find a satisfactory definition of blindness has resulted in abandonment of the term "blind" altogether. This followed experimentation with a skirting of the subject by identification of a group unable to read news print with the aid of corrective lenses.

Let us consider some possible improvements in techniques which may help supply our need for accurate uniform information.

The accurate data needed for planning prevention programs and services for the blind could probably best be gathered by a complete study of demographic samples of our population. (10) Such an area or areas should be restudied annually in order to determine the registrants whose vision has been restored, those who have moved or died, and to add the newly blinded. The age of onset of blindness should be coded, as does the Canadian National Institute of Blindness, (11) to give the age at the time of registration as blind, and the age of onset of blindness. This enables the data to distinguish between prenatal and postnatal causes in recording blindness.

The classification standards set forth in the NSPB Fact Book for Blindness should be adhered to. Those states utilizing up to 30° should be asked to conform or provide 20° data for inclusion in the study areas.

The NSPB definition of blindness needs further amplification for it does not take into account the motivation or needs of the individual. All of us know many people certified as blind, who function as almost normally sighted. On the other hand, we all have encountered people with much better vision than the above definition, who perform as if they are blind. Perhaps even our definition of blindness needs redefining. Richard Hoover discusses this problem in "The Implication of a Functional Definition of Blindness" (12) and suggests that the functional definition seems to work as well or better than a precise visual acuity or field definition.

Another basic problem is the measurement of ocular impairment. Even with somewhat standardized definitions of blindness the measurements are usually based on one Snellen measurement, and that in all probability not under standard conditions of lighting, distance, and contrast. The quality of visual field measurements varies even more. As pointed out by Schon, "The Snellen chart lacks fine graduations between 20/100 and 20/200, yet this range is the most critical from the standpoint of classification. (Anyone whose visual acuity is less than 20/100 gets tested next at 20/200.) Moreover, the Snellen chart measures only distance vision, it does not test near vision, which is a better criterion of visual ability. It also does not measure other components of visual performance, such as uniformity of field. Taken by itself, the Snellen chart indicates mainly the ability to read a Snellen chart. It does not indicate whether the subject has useful travel vision, reading vision, or other visual capabilities." Significant fluctuations of visual level take place in time, as well as under different examinators and techniques.

In addition to the inadequacy of the customary conditions and instrumentations used by eye examiners, the extent of the information needed must be studied. It is not sufficient to report the Snellen acuity and visual fields, but in addition, ocular motility, binocular function, and color vision should be reported.

From 1960 to 1966, a sub-committee on the Impairment of Visual Function operated as a project of the Rehabilitation Codes. The Committee was composed of eight ophthalmologists, two optometrists, four Federal and State Agency Representatives, eight direct service and rehabilitation agency representatives, and five staff members from national voluntary organizations.

This group produced and had tested a previous "Code for the Impairment of Visual Function." (13) The instrumentation, standard of testing and exact coding of the measurements are spelled out in detail and will soon be published. Charts for their recording, as well as updating of data at another time, were prepared so that a continuous record of the individual can be kept.

Widner, in his excellent paper, (14) reclassified the causes of blindness data and made the important observation that, "In order to obtain register prevalence cause-of-blindness data, the registers must be updated annually, i.e.: registrants whose vision has been restored, registrants who have moved from the state, and registrants who have died must be removed. The cause-of-blindness information derived from updated prevalence registers might be quite different from that presently reported."

All of this needed information, as well as additional impairments and environmental conditions can be coded and analyzed by using the rehabilitation codes. The universal use of these codes would solve many of the problems inherent in the present system and broaden the base of our knowledge as well. We need to understand and report the total human function of seeing as against the cold recording of vision.

While we cannot accurately estimate the changes in the course of blindness in children and youth because of the absence of any reliable data, certain obvious changes bear analysis.

As chemotherapy has advanced, two of the most prevalent causes of blindness in children, ophthalmia neonatorum and syphilis have all but disappeared as causes of blindness in children. "Between 1940 and 1962, the proportion of all blindness due to gonorrhea fell 93.6%, from 2.3% to less than 1.0%. In this same period, blindness due to syphilis declined 73.4%, from 7.9% to 2.1%(9)

While ophthalmia neonatorum and congenital syphilis have virtually disappeared, now causes such as retrolental fibroplasia and the ocular disorders of rubella have appeared. Advances in neurosurgical technique permit pateint survival so that children with brain tumors, or hydrocephalus, live to present us with visual impairment from optic atrophy. Chemotherapy now permits survival from meningitis, giving us other new cases of optic atrophy. Survival of patients with retinoblastoma is improved but final visual results are not. Cataracts in children, treated with improved surgical techniques, frequently result in sufficient improvement of vision to remove them from the blind classification.

Terry in 1942 (15) first described retrolental fibroplasia. This disease occurs in premature infants of extremely low birth rate to whom excess oxygen has been administered in the neonatal period. It is characterized by a mass of scar tissue which forms in back of the lens of the eye.

For fourteen years this disorder produced thousands of blind children. The significant research of Hellstrom in Scandinavia, Ashton and his group in England, and Patz and his group in America proved that the administration of more than needed oxygen was the cause of this horrendous disorder.

Following this discovery, supplemental oxygen was administered only to infants who displayed a marked need because of blueness and respiratory difficulties. Oxygen was metered and administered only for as short a period as necessary to maintain life. The incidence fell to a gratifying rate of less than three cases per one thousand surviving premature infants.

As noted above, as the incidence of RLF decreased, the incidence of the "respiratory distress syndrome" (Hyaline membrane disease) increased. Now, we are faced with the possibility of increased oxygen usage again, to prevent "respiratory distress syndrome," possibly causing an increase in RLF.

A 1967 NSPB survey (16) has shown that this potential for an epidemic of RLF blindness is probably greater than it was 15 years ago. Some 80% of the recently studied cases of RLF were in infants who were given oxygen for hyaline membrane disease. We must be on guard but above all have some accurate projection method to sound the alarm.

Blindness from Rubella is increasing. The number is unknown, but that there has been a marked increase is strongly felt by most workers for the blind. There is evidence that the foetal human lens material has become more susceptible to the rubella virus. Whatever the mechanism, we are faced with a marked increase in the ravages of this virus on the human fetus. The resulting common association of cataracts, deafness, congenital heart disease, and occasional microcephalus, microphthalmia, spastic diplopia and defective dentition possibly can be prevented by immunizing the prospective mothers. We hope that the massive immunization plans bear fruit. Again, it would indeed be useful to have ongoing statistics to tell us how effective this campaign against blindness will be.

In the 1958-59 NSPB study of the causes of blindness in school-age children, Hatfield reported that nearly 50% of all blindness in this group was due to congenital or hereditary causes. If retrolental fibroplasia was excluded, 71% was due to these causes.

An English study of the causes of blindness in childhood (17) done on a group of 773 students in special schools, produced essentially the same conclusions as those of Hatfield. It is suggested by these authors that although 50% of the blindness in their study is acquired, this may be expected to decrease dramatically with advances in medical care. Half of this is due to retrolental fibroplasia, the cause of which is known.

A more difficult problem is the remaining 50% of cases blind from genetic causes. The prevention of these cases is more difficult. Dominant inheritance accounts for only a small percentage and here counselling may have some effect. On the others, we will probably have to wait for further biochemical knowledge of the basic problems of genetics. Until then, perhaps a more determined effort should be made to classify the types of genetic problems we face. All the more reason for an accurate study of the blind from which useful projection of the causes and course of blindness can be made.

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EDUCATIONAL ASPECTS OF RUBELLA SENSORY DEPRIVATION*

By Powrie V. Doctor, Ph.D. and Ferne E. Davis

Rubella has become one of the most widely publicized and talked about diseases of man, particularly since 1964, when its tragic implications came to worldwide attention.

During that year, the most severe rubella epidemic in history ever to be recorded reached its peak across the United States. Its devastating effects upon children born during that epidemic are still being tabulated.

Rubella is primarily a childhood disease. One of the mildest of virus illnesses, it often goes undetected. Yet when it strikes a woman early in pregnancy, the effect is often disastrous. It is because rubella attacks the unborn that it is considered a disease of major importance.

The history of rubella began some 150 years ago. However, in the early period of its history it was known as Röthlen, a term German physicians had used in describing a new disease. From its early German recognition is derived the term commonly referred to as "German measles." Although Röthlen, or German measles, was gaining acceptance as an epidemic entity, the name was not. In 1866, Veale[1] formally proposed the more "euphonious" name of "rubella" by which it is now universally known.

Controversy over the characteristics that distinguished rubella from measles (rubeola) and scarlet fever persisted during most of the 19th century. However, it was formally recognized as a distinct disease in 1881. Beyond the flurry of dissension over the characteristics of rubella the general consensus was that few diseases were as benign.

The disease received little attention from medical authorities for more than half a century until 1941 when the Australian ophthalmologist, Dr. Norman Gregg,[2] alerted the medical world to the relationship between congenital defects in babies and maternal rubella early in pregnancy. Although Gregg's observations were confirmed and expanded, 20 years were to pass before the virus could be isolated and cultivated for effective study.

In 1965 the first experimental vaccines were developed and laboratory tests began. Through the clinical trials with human beings and the open population studies that followed, a live, attenuated vaccine was found that was safe and effective. The Federal government announced the licensing of the HPV-77 strain vaccine in June, 1969, and outlined a massive, nationwide immunization program.

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*Part of Social & Rehabilitation Service (Department of Health, Education and Welfare) Project (Resources for the Rubella Deaf Child), RD-3068-S71-C1.

Rubella is worldwide in distribution and occurs generally in the late winter and early spring. There are small outbreaks of rubella each year usually spreading from thickly populated areas such as military installations, schools, and universities. However, the effects of rubella are of the greatest concern during severe epidemics that generally occur in 7 to 10-year cycles.

The epidemic that swept from northeast to south and west across the United States from 1963 to 1965 expanded medical knowledge of rubella and its disastrous effects on the unborn. As this knowledge expanded, the manifestations of congenital rubella were increased to their full impact. In its spread from east to west the epidemic laid waste countless human lives. At least 30,000 abortions and stillbirths have been estimated. The toll included another 20,000 to 40,000 infants born seriously damaged by the disease. There may be an additional 10,000 children who suffer from mild to moderate handicaps.

"Rubella Syndrome" Impairments

The congenital defects known as the "rubella syndrome" range from hearing and visual impairment, cardiac malformations, small head size and mental retardation to less easily recognized damage of slow motor development and growth retardation. More than one defect is frequent and sometimes as many as four or five will be discovered. More than half of these children have impaired hearing, the most common defect in congenital rubella. Many of these children who are deaf or partially hearing suffer from other problems. Deafness is seldom the only problem and many have visual and/or neurological problems as well. With impaired sensory systems of sight and hearing, the two main avenues of learning are closed to the rubella damaged child.

Myklebust[3,4] has described how a sensory deprivation limits the world of experience and how it deprives the organism of some of the material resources from which the mind develops. Man's experience is formed from the sensations received through his senses. Upon this information that he receives from his senses, he builds his world of perception, conception, memory, imagination, thought and reason. If he is deprived of a type of information vital to total awareness, learning and development, because he is lacking in audition and in vision, the processes by which he learns are altered. He then must learn, adjust and understand the world in which he lives through the use of the residual senses.

Sensory deprivation may be discussed in another term. Doctor,[5] in 1959, pointed out that any single handicap often becomes multiple when there is a breakdown in communication between man and his environment. Social, educational and emotional problems may become more demanding than the handicap. Without communication the isolation of man from his world is virtually complete.

Today more than ever emphasis is on the need for us to adjust our thinking and our acceptance of the individual who may suffer from more than one handicap. We must think in terms of those not only sensorially impaired but those who may also suffer from other physical and mental handicaps. For these individuals the processes of education and rehabilitation must be paced with a genuine acceptance into our present day society.

Problems of Increasing Identification of Multihandicaps

Medical progress with new diagnostic and therapeutic approaches is identifying multiple handicaps in increasing numbers. As each additional handicap is diagnosed, the problems of special education become more complex. It is evident that the education of the multiply handicapped children will require a coordinated program of many disciplines.

Currently more demanding are the massive medical, educational and social problems created by the 1964-65 epidemic. These problems must be met and solved.

Dr. Louis Cooper[6] has observed that the "rubella damaged infant frequently suffers from severe sensory-environmental deprivation as well as the effects of chronic infection. This deprivation, primarily the result of deafness and blindness, is compounded by frequent and prolonged hospitalization, which is common in early infancy." He urges an early diagnosis of auditory and ocular defects to be followed by vigorous efforts toward correction, education and rehabilitation.

The education of both single and multiple handicapped children is not a new field. Indeed it has been functioning for decades. The present crisis stems from the rubella epidemic of 1964-65, resulting in a large increase in the number of handicapped children of the same age group. This huge influx of children upon the educational system presents a complexity of problems in educational planning.

Rubella handicapped children need special programs of training and rehabilitation for which the public school systems are not always equipped. Schools and centers specializing in services for the children with single handicaps are unable to accommodate the sudden increase of students. In addition to the problems generated by a shortage of teachers and facilities, the educators are faced with the difficulties of training children with multiple handicaps.

Medical and allied professions have agreed that rubella damaged children, as a group, have characteristics which severely hamper their learning capabilities. They are generally physically weaker and have lower tolerance to stress. Special restricting features may be specific learning disabilities or mental retardation. Sensory impairments of more than half of these children further limit or deprive them of the usual learning mediums. All too frequently these learning disabilities are present in combinations of two or more, presenting even greater difficulties for their education.

Special facilities and programs must be developed and expanded plus more teacher and supportive personnel trained to care for and to educate these children throughout their academic and rehabilitative years.

Provision of Regional Resource Centers

Special schools and clinics are being set up all over the country for rubella children. Special U. S. legislative acts have provided for the development of model pre-school programs and the establishment of centers giving diagnostic, educational and therapeutic services for handicapped children throughout the United States. In addition, these acts provided for the establishment of regional resource centers for the improvement of education for handicapped children and a number of regional centers to serve deaf-blind children.

The pre-school program has doubled in its activity over the past two years, especially in the public school system and in the speech and hearing centers. These programs have done much in preparing the handicapped child for integration into the regular elementary schools. However, a program for the progressive development of these pre-school classes must be maintained or they could become a "collection point" for children who cannot be taught in other classes and whose problems have not been identified. Some educators of the deaf believe that, with special pre-school education, many of the rubella damaged children can be successfully prepared for attendance in regular public schools.

In this general trend it seems appropriate to make reference to a note of caution voiced by Dr. Calvert[7] in his discussion of multiple handicaps and the "rubella child." He warns us of the danger of "overgeneralizing expected behavioral characteristics based on a common etiology." The danger comes, he observes, when a child is treated as a typical "rubella child" according to our pre-conceptions of what he cannot do or learn.

Early education and training in the rehabilitation of the rubella handicapped child is of prime importance. Equally important is the early identification and evaluation of the handicapped child so that corrective measures and special training can begin when it does the most good.

Early identification is even more vital for multiply handicapped children. The complexity of their needs cannot be served by any single discipline. Their problems require the coordinated services of many professions: doctors, special educators from different fields, social workers, psychologists and others. The multi-disciplinary team approach has proven to be most effective in providing a critical early educational and rehabilitation program for the multiply handicapped.

Parents' — Physicians' Compassion is Essential

An effective program in the education of the congenitally handicapped child must include an equally effective program of parent education. The impact upon the family with a handicapped child can often be devastating. Feelings of guilt and hostility between parents and between the child and his brothers and sisters can bring about a complete breakdown in family relationships. Anxiety over the financial burden created by the special care and education, adds to the frustration and despair in the failure to find the support and information they need.

The role of the physician is most important in the early identification and diagnosis of the handicapped child. His compassion in his discussions with the child's parents and emotional support are essential to lessen the impact. Successive periods of counseling and recommendations are important for the parents' psychological adjustment.

Perhaps the role of parent counseling is a job of many disciplines with physicians, social workers, psychologists, teachers and others joining in a collaboration of support and advice to the family with a handicapped child. Needs of the handicapped child go beyond the clinical setting. A coordinated program of help in home management and care, services, education and training, and planning for the child's future needs is a matter of medical, educational, rehabilitation and social concern.

A coordination of the resources of state and local agencies is necessary and close cooperation between public health departments, diagnostic, treatment and evaluation clinics, rehabilitation centers, social and family service centers must exit for the restoration to society of the handicapped.

Community Awareness Essential

The future will require even more effort and resources in personnel and facilities to accommodate the growing population of handicapped persons. Rehabilitation must plan for the time when these children will be ready for vocational training and rehabilitation to community life and self-sufficiency. Social service agencies must program and plan for the handicapped person's place in the life of the community. Personal adjustment and social acceptance are paramount if they are to contribute to society. Finally, the community must be made aware of the handicapped and to accept them as members of society. Perhaps this task would be the job for religious organizations. Their capability and interest is well established and well known in the welfare of the handicapped. In their work with the deaf, various religious organizations list 1,500 active workers in the *Directory of Services for the Deaf in the United States.*[8]

Society must plan for the future in eliminating the problem of rubella from its midst by enthusiastic support of continuing programs of rubella immunization. Unless this is done our medical, educational and social forces in the United States must be organized to a far greater extent than at present to meet the needs of future rubella handicapped children.

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"Rod" Kossick in South Vietnam; a graduate of the Orientation and Mobility training course at Western Michigan University. He was asked for this personal narrative of his experiences to shed as much light as possible on what makes help from the United States acceptable to the Vietnamese.

ACTIVATING A PROGRAM FOR THE BLIND IN SOUTH VIETNAM †

By Rodney J. Kossick

"Hello Rod, how are you?" The inimitable voice of Russ Williams* made no mystery of who was calling long distance on that pleasant day in early Sept., 1966. "Listen" he continued, how would you like to go to Vietnam?" Wow! My thoughts flashed to the file in my drawer marked Vietnam which was stuffed full of clippings: hawk, dove, human interest stories, tragedies, budget statements that staggered one's imagination and numerous news media photographs. Russ went on to explain that Dr. Howard Rusk, an international figure in physical medicine and rehabilitation, was directing a program of rehabilitation for disabled Vietnamese veterans. He was now interested in expanding this program to include rehabilitation services to blinded veterans. In their search for personnel to operate this program, they contacted Russ for information.

If I were interested in knowing more about this program I should call Dr. Rusk in New York City. Russ gave me the phone number for World Rehabilitation Fund, in charge of Dr. Rusk's overseas rehabilitation programs. After at least five minutes of thought, I called the New York number and was greeted by Eugene J. (Jack) Taylor, Secretary-Treasurer for World Rehabilitation Fund. Mr. Taylor briefed me on WRF experiences in Vietnam, particularly its large amputee prosthetic and rehabilitation program. He explained that Dr. Rusk was interested in also giving rehabilitation services to the blind Vietnamese war casualties. And they would be interested in a person who would be willing to go for possibly a year's contract to Vietnam to work with the Vietnamese and teach them the principles of blind rehabilitation. In their search for these services they came to feel that a person with a background in orientation and mobility would probably best suit these needs. Mr. Taylor indicated that WRF, Inc. was operating under contract with Far East Health Branch, U.S. Agency for International Development, Dept. of State, Washington, D.C., and for details of employment I should call the State Department.

That evening my wife, Sherry, and I discussed it excitedly. We had no information yet on whether or not the family would be included in the overseas tour but Sherry said that even if she and the children were to remain stateside during the tour she would be willing to go along with the idea. I was not enthusiastic at the idea of possible family separation for this period, but we both agreed to pursue the matter and learn the details.

The next day I talked with the USAID Office in Washington and they wanted to know if I could come for an employment interview: the next week I found myself on a

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†(Accompanying this paper is one by Lam Van Thack, M.D., Director, National Rehabilitation Institute, South Vietnam, presented at the Prime Minister's Office, February 17, 1970.)

*Chief, Blind Rehabilitation Program, U.S. Veterans Administration.

plane and when I arrived at the State Department, I was amazed at its size, even though I had expected it to be quite large. As I entered I was glad I was early since it seemed quite possible a person could wander around in there a month and never cover the same spot twice. The security guard called the Far East Health Branch to check my admission and then gave me instructions on how to locate that department.

The interviews were interesting as they gave me an overview of their projects in South Vietnam and how the blind rehabilitation projects might be operated. Actually my interviewers had very little idea of what was to be accomplished or how it should be undertaken. It seemed that there were no blind rehabilitation programs in Vietnam nor any statistics or information of any sort regarding blindness or the blind population.

On the positive side, I learned that many other persons on various assignments had taken their families with them to so-called safe havens, such as Bangkok, Manila, Taiwan, Hong Kong and Singapore, and if the contract met the requirements in 18 months or 24 months, and other things fell into place, it would be possible that my family could go overseas with me.

Further discussion revealed that there was already an American woman in South Vietnam who was interested in blind rehabilitation services for the Vietnam veterans. She seemed to have considerable experience in working overseas with blind persons and one of the staff members there had met her and felt that she would be useful in this project. Her name was Genevieve Caulfield and it was felt that I could probably meet her later in Washington.

The next day I was sent to the medical department for a physical, and I went uneasily, because the night before I had contacted some persons who had already been to Vietnam for various assignments. Many of them indicated that the food was very different, that gastrointestinal diseases were rampant and that it was impossible for foreigners to escape them. For this reason I was a little nervous and worried about the upcoming physical since I had recently had a major stomach operation and I was not sure if they would consider me medically fit to enter an area where castiron stomachs were the order of the day. The physician and I discussed the subject, guided mostly by my optimistic comments. Upon completion of paper work, medicals and interviews in Washington, I returned to my job in North Dakota.

As I gazed out over the waters of Devils Lake in my home state and into the Fort Totten Indian Reservation I began thinking about this state; its rich, black Red River Valley, the rolling wheat plains, the forested hills, the wild west of the badlands, canyons and buttes, the clear fresh skies, the sandy blue lakes nestled in pine forests in adjacent Minnesota, a blue sea of blooming flax early in the morning, the kaleidoscope explosion of spring, the flashy display of autumn, the serenity of a moonlit night over a snowscape, the tranquility of a soft snowfall, the full October moon that sets in the same instant the sun rises – shimmering silver across the water in the direction of the setting moon – and looking the other way, the fiery red orange racing upon the lake as a new born sun simultaneously rises, the ducks, pheasants, geese, partridge, deer, antelope, the Sioux Indians on the Ft. Totten Reservation that live across this lake and all the other people – the wonderful people! This is a breed seemingly unknown to the rest of the world, and I have met a lot of them. In the past six years I had driven well over 100,000 miles each time I made my rounds and what a job it was to convince them that, this time, I could not stay and enjoy their huge farm supper as I had on a previous visit. Yet, until this type of relationship was developed even the varest of rehabilitation services would, in most cases be rejected.

Fort Totten over there – that was something else. Log cabins where you could throw a cat through any wall without harming a hair on its head, dirt floors, and the man frequently "away" (in prison), and women hauling water from the creek or the swamp. Walking back into the bush to discuss VR services with a fugitive made me painfully aware of the "Paleface Syndrome" and what we had done to cause these conditions among the people who formerly owned this country.

It was difficult indeed to break the news of my planned departure to Mr. Merle Kidder, the Director of our program, for over the years, I had come to know and respect this man. His knowledge in the methods of knowing, working with, and serving people had rubbed off; most importantly, a real concern for fellow human beings ran all through his character. It is something people call the essence of life; psychologists describe it as fulfillment at the highest level, religious persons see it as their ideal, and in general it seems to be a highly desirable state of being.

There were the training sessions, the shared conventions that have become legend, the "skull" sessions, the legislative and appropriations hassles, and most of all, the rare feeling that someone has complete confidence in you and the knowledge that, with this, you can do almost anything; nothing is too new or innovative, or administratively unfeasible. And from this fertile environment there developed a blind program so uniquely client-centered, it was little understood. All of this would, indeed, be a hard chapter to close.

November opened and I found myself in Washington, an employee of WRF, Inc., sitting in a room with a Vietnamese woman being drilled in the basics of the difficult Vietnamese language, and yet I had not met Dr. Rusk or Mr. Taylor. I worked in that room until February, trying to stretch my bass monotone into the variety of sing-song that the Vietnamese language requires; I went through four instructors and I found myself doing better than I thought until I received English instructions to recount some complicated instructions on how to get to an airport. Not having learned the Vietnamese word for airport I substituted "little TanSonNhut", which of course is the large airport in Saigon. At that point the Vietnamese tester politely reminded me TanSonNhut was in Saigon. Again I repeated that I meant a little TanSonNhut trying to indicated this was a generalized term for airport. The instructor refused to accept this substitute and a limited quarrel in broken Vietnamese resulted; I left that session disappointed and knowing that my test score would be off the bottom of the scale.

While in Washington, however, I did not confine myself to 24 hours a day of Vietnamese instruction and listening to tapes in my apartment. On one occasion, I had an opportunity to meet Miss Genevieve Caulfield. We had a very pleasant visit in which I was able to become acquainted with her many experiences overseas and with the things she was now doing in Vietnam – particularly establishing and helping to run a school for blind girls. My stay in Washington also gave me an opportunity to visit many of my friends in blind rehabilitation, both in private and government agencies; in fact, before I left, I had the temerity to invite several of them to a stag night and much to my surprise they all appeared. We visited an Irish "pub" and then proceeded to my apartment where we charcoaled some steaks (the charcoal part was not fuel, it was what happened to the steaks.)

Also while I was in Washington I received the traditional battery of shots (which make your arms feel as though they were going to fall off and you hope they will); I also got my passport. In February I returned to Grand Fork, N.D. and began the arduous task of packing, selling, and saying farewell. Permission had been granted for my family to go to Kualalumpur, Malaysia, where I could visit them periodically (this had been set up on the basis of my accepting a two-year tour). It all fitted into place quite nicely as I felt that it would probably take two years (with language training included) in order to do a satisfactory job in South Vietnam.

Soon the magic day arrived and five and one-half Kossicks and 13 pieces of luggage departed from Grand Forks, one 20-degree below zero morning. After three days in Hawaii we were on to Tokyo and then to land at the tropical paradise of Kualalumpur, a clean, beautiful city located in the midst of greenery and blossoms. We were met by Major Ron Bridges of the American Foundation for the Overseas Blind, who proceeded, over the next few days and evenings, to show us the highlights and beauties of Kualalumpur. We finally located a nice house on the outskirts of the city and bought a second-hand car. The previous tenants had employed a night-time guard, since robberies were not unheard of in this suburban area. As I talked to the guard, our conversation soon took on a flavor of blackmail, whereupon I drew a snubnose revolver from my pocket that I had planned to take to Vietnam with me. In an unthreatening manner, I explained that I would be my own protection in this house and pointed to the weapon that I was holding, whereupon the size of the man's eyes increased considerably and he immediately took his leave.

Like all other foreigners we ended up with a cook and a baby "amah" to take care of the children. The family joined a club located in the beautiful botannical gardens in the shadow of the ultra-modern skyscraper capitol building, where the children had opportunities to swim, play tennis, handball, and take part in other activities. The children also attended the British schools and seemed to enjoy it thoroughly. In fact, they were quick to pick up bits of several other languages and many of the British expressions. "Mummy, can I have a go at it; may I please have a biscuit (cookie)", and some Dutch, Malay, and Chinese expressions soon became part of the household.

As much as I enjoyed beautiful Kualalumpur and my family, I felt the pressure to move on to Saigon and on Sunday, March 12, 1967, I left Kualalumpur for a short hop to Singapore where I made my connecting flight to Saigon. Approaching through the Delta area, I could see the beautiful sandy beach of the east Vietnam coast and then the Mekong River with its many fingers of water flowing out through the delta to the sea. Suddenly we were over Saigon, a large city surrounded by greenery and there was TanSonNhut airport. As we landed I felt a wave of excitement surge through me, and I was anxious to disembark and meet Mr. John Wells, Project Director of WRF in Vietnam. Once in the hot terminal, I found myself standing in many lines filling out forms in triplicate, declaring all my goods and currency. After an hour I had finally cleared all the customs officials and security guards, and, squeezing through a small gate into the main part of the terminal, I was greeted by Mr. Wells. I was also besieged by luggage boys who insistently tugged at my suitcases, but Mr. Wells sent them on their way and we headed for the parking lot. I noticed it was much hotter than it had been in Malaysia and it seemed to be quite a bit dustier, too. We finally stopped next to an old beat-up Citroen, a black, four-door model which one usually associates with the German gestapo in World War II movies. As we got into the car to go into Saigon, John said, "It will be much easier driving back now that I have you to help me"; I soon found out what he meant when I saw that the old dashboard shift just would not stay in gear. So, with John operating the steering and foot controls, I held the gear shift in place as we went through the check points and on into the main road leading into the Saigon area. After about two miles of dense traffic composed of bicycles, weird motorized vehicles, automobiles, trucks and pony carts, we finally pulled into a narrow driveway and stopped at a gate. The Vietnamese guard came out, saluted John and opened the gate to the enclosed court yard which surrounded the USAID apartment building. We went up into the apartments and I found them much more comfortable than I had expected. John quickly explained that these were embassy apartments and he had been billeted here through a windfall. He offered to give me a tour of Saigon and I readily accepted. As we travelled along in the old Citroen I was thunderstruck by the fantastic traffic situation. Motorcycles, bicyles and pedestrians were everywhere, going in all directions; the smoke was just as intense as the noise and it seemed like a mad race of the lemmings to the sea. We went through a couple of large traffic circles, one of which was the central market, and then down a boulevard toward the Chinese section. We stopped in a U.S. Army depot and looked over some construction equipment; finding a Vietnamese guard in the area, Mr. Wells asked when the yard would be opened and to whom we could talk the next day about obtaining some of this equipment. Putting my elementary Vietnamese to the test I engaged the guard in conversation, and probably because he was used to Americans attempting to speak Vietnamese, he understood me rather readily. We found that the yard was closed and we could come back the next day anytime after 8 for further inspection. We then proceeded deeper into Cholon to the large PX and, as I found myself walking through canyons created by beer and soft drinks stacked about 15 feet high in several large sections, I was amazed at the profusion of goods and the low prices on these articles.

Later that evening, Mr. Wells dropped me at my residence on HaiBaTrung street located just a stone's throw from the National Assembly building and the Saigon waterfront on the Saigon River; the building had six floors and there were approximately 30 rooms. I entered the shaky little French elevator to go to the third floor and, as I did, I noticed a sign which said, "Please do not use between 5 and 7 P.M." I later found that this was due to the fact that Saigon did not have sufficient electricity to go around at all times. When I got to the third floor I found my 10 x 12 room had a bed, dresser, air conditioner, and small bathroom.

My first stop the next morning was at the National Rehabilitation Institute where the World Rehabilitation Fund was assisting the Vietnamese government with its rehabilitation programs, and there I met Dr. Vi, a most cordial man, with an excellent command of the English language. After a tour of the Institute, he gave me an old Citreon complete with a Vietnamese driver to do my errands. We visited a USAID building near downtown Saigon; unknown to me, the building had recently been bombed by terrorists and the guards were understandably quite edgy. There was a large open space in front of the building and I instructed the driver to stop there; before getting out, I told the driver that I would be about a half hour and then I would return to that spot. The driver excitedly told me to "get out, get out" and became very upset as I backed out of the car trying to understand why he was so upset; just then a shot was fired right behind me. I bolted upright and looked around to see several Vietnamese guards rushing the car – their rifles ready. I immediately ducked into the gate, not knowing what was happening. The guards swarmed over the car shouting excitedly, waving, pointing their weapons, kicking the car. The driver was frantically pleading, saluting, and waving his arms. The car was hurriedly moved away from the building, thoroughly searched, and the driver was given a good dressing down. I later learned it was a favorite tactic of the Vietcong to load a car with explosives, drive it up in front of a building and set the charge, just as often as not, the driver blowing himself up with it. When I finished my business and returned to the street, my driver and car were nowhere in sight. Embarrassed over the whole situation, though he worked at NRI, he never showed his face to me until six months later. The next few days were spent buzzing around through various USAID and Embassy offices getting my necessary meal cards, housing papers, gun registration, driver's license, PX cards, and other sundry items.

Several times before getting a jeep, I had to take a taxi from my residence to the rehabilitation center about two miles away. My first taxi ride was an unforgettable experience. We started off down the bumpy street in the bug size Renault which required that one sit in a hunched position; I soon realized that the driver was not on the route I was familiar with to the NRI; he was a rather surly and uncommunicative person as were many of the taxi drivers. As we bounced around in unfamiliar territory, my apprehensions began to rise since I was aware that many VC were employed in the transportation business and I could well be on my first and last ride. Just as I was thinking about bailing out he turned the corner and there was the NRI. He then requested 150 piastres and after some argument I finally paid him 50 piastres, which is about twice the going rate for the trip. (The official exchange rate was 118 piastres for one American dollar.) This and a few other incidents with taxi drivers soon led me to believe that my Vietnamese was utterly horrible and that no one could understand. I almost stopped speaking Vietnamese until I realized the taxi drivers simply did not wish to understand so they could control the ride, and, of course, the charges. My contact with the Vietnamese for the first week or so was with the so-called "street people;" the hawkers, the car watcher, black marketeers and, of course, the taxi, cyclo and tri-shaw drivers. This gave me a very shaded view of the Vietnamese people and my feelings were reinforced by other foreigners who discussed their prejudices and bad experiences. It was only after later meeting what I think of as the real Vietnamese people that I came to know, understand, love and respect them.

First on my list of business with John one day was to see if I could get a vehicle of my own. We went over to the USAID motor pool which was full of International Scouts and old World War II jeeps. We went in to see the motor pool director and right then I learned a valuable lesson in the fine art of operating within a large scale overseas theatre. John politely asked the American USAID adviser for vehicles for our project and he was given a rather off-the-wall reply about written requests through channels. Like a chameleon John changed to a puffed-up crimson, charged the desk and began shouting and pounding his fists. After a few minutes of this action some keys were passed to him and we signed a good number of forms. Going out into the parking lot we picked out a couple of jeeps and drove off.

The jeep became my faithful companion; and after a few days of experience when I found out just how wide and long that jeep was, I learned to hold my own in the Saigon traffic. Although their driving was always at a furious pace, and they considered a miss as good as a mile, they were never malicious about it. Everybody squeezed ahead into the smallest space possible at all times but never in such a manner that anybody really became angry. However, they did have their share of accidents. Apparently, I became so acclimated to this type of driving that I did not even notice it until later when some friends riding with me threatened to bail out if I did not regain my senses.

The Vietnamese policemen, or "white mice" as they were called, did not seem to mind all this too much; in fact, they did very little until after the Tet offensive when many of their number were shot from motorcycles and other vehicles. Then they suddenly cracked down on traffic procedures, often resorting to shooting in the air and occasionally spraying the streets with bullets to control the traffic. I can vividly recall one instance when the taxi in front of me was caught in a light change and the poor driver got so shook he could not find the gears; a short-fused policeman fired a shot into the street alongside the taxi. I could see the mark the bullet left in the street about 30 feet in front of me and expected some soul to fall off a bicycle behind the line of fire. Apparently, through some miracle, the bullet deflected almost straight up and nobody was hit.

I first began looking for a Vietnamese assistant who could assist me with translations and could learn the skills of blind rehabilitation so that the program would become something indigenous, rather than an American showcase. I interviewed several

Vietnamese for the job and asked all of them to translate some materials verbally and also to give a written translation of orientation and mobility terms into Vietnamese. There was one man I liked in particular: Mr. Tarn Dinh An, a small, young, smiling Vietnamese, who had a background of two years of the University and was a medical corpsman, paratrooper, and advisor to U.S. Military forces. He seemed to be the most interested in the proposed blind rehabilitation project itself and also did by far the best translating on the orientation and mobility terms. (The others had translated the orientation and mobility material very literally, but Mr. An had given a true "thought content" translation rather than a stilted word-for-word translation as others had done.) He was soft spoken, pleasant, and not as anxious as the others; he displayed a keen humor, thoughtfulness, honesty and integrity. At the conclusion of two interviews he indicated that he would contact me again in a few days since he was also interviewing some large oil companies whom I knew would pay handsomely for his experience and keen language acumen; but a few days later Mr. An returned and said that he would like to have the position. He had thought it over and decided that he wanted very much to be a part of this new blind rehabilitation project. I was to learn later that he had turned down higher-paying positions to do so.

During the following days we discussed my plans for a blind rehabilitation program and he read, copiously, the materials regarding blind rehabilitation that I had brought to Saigon with me. I soon noticed that he read English with a speed and comprehension amazing in anyone to whom it was a foreign language. He had taken English in high school and then developed it through occasionally speaking it while working with U.S. Armed Forces and also from reading English novels and watching English language movies. More than once we discussed Hemingway and other favorite authors over a bottle of cognac for which many Vietnamese had cultivated a taste.

After hiring Mr. An, we then set out to survey facilities in the area for the education and rehabilitation of blind Vietnamese. We first visited the Boys School for the Blind, a government school in the Cholon Sector. This was operated by a blinded Army Major who had received rehabilitation in France, and the school consisted of old French-style open buildings which were quite drab, dirty and rundown. When we toured this school with the Major, all the students stood at attention as we entered a room, and for a finale several students were requested to perform musically in a small auditorium. This seemed to delight the Major no end and as we left I had the feeling that I had left a movie in the middle of it; somehow it just did not quite fall into place.

Next we visited the Girls School for the Blind, also in the Cholon section. There we met Miss Caulfield and Mrs. Tai, the Vietnamese director of the school, who had been trained at Perkins Institute near Boston. This school was something I could understand. It had an academic curriculum and specific plans for reaching its objectives with the girls. Here, there was spirit – the people seemed alive – and I felt better as we left.

Next on the list was the visit to the Christian Brothers. I met Brother Tan who spoke excellent English and treated us to a delightful lunch of French bread, soup, fish, beer, wine and fresh fruits. This was at Taberd School in the heart of downtown Saigon and it was unbelievable that any place like this could exist in crowded, dirty, noisy Saigon. They had a complete city block, walled off by three-story buildings all around. Inside was a beautiful courtyard with shrubs, dormitories, classroom buildings and a large, clean, cement play area complete with basketball hoops. It also included a small arboretum which housed a fish pond and a few animals. It did not take one long to realize that here were people genuinely concerned with education. Brother Tan explained that blind boys and girls were allowed to go to La San School near the NRI through the primary grades and when they reached high school age they came here to Taberd to compete in regular classes with the sighted students.

After a most cordial and stimulating visit we went to La San School and met Brother Girard, an humble, intelligent man dedicated to the integrated program in the La San School. It was remarkably well equipped, even having a braille thermoform machine and the curriculum was comprehensive. Since La San School was only a block from the NRI, I visited there many times just to enjoy being with the blind students as they pursued their daily activities alongside their sighted peers. Not only were they integrated with sighted children but integrated with boys and girls together in classes and in a type of coeducational dormitory setting – unheard of in Vietnam. After classes were over they often played games together and, as a group, enjoyed musical pursuits.

Next we visited the Friends of the Blind Association which was headed by a woman named Dr. Vi. This association had been established in 1959. In a building with three floors, they employed from 12 to 30 people making wooden brushes, brooms and some cane and wood objects. In spite of their equipment and physical size, the organization, for various reasons, had never expanded beyond these operations.

Nosing deeper into the back alleys of Saigon, we located a group of some dozen Buddhists making brushes and a group of Buddhist musicians in the outskirts of Saigon, who disbanded shortly after because of a lack of work. This, and a small private school south of Da Nang, were the total blind rehabilitation and education facilities in the Republic of South Vietnam at that time.

Various discussions had taken place with Dr. Vi regarding the blind rehabilitation project; Dr. Vi was interested and wanted to know what would be our space and staff requirements. Miss Genevieve Caulfield had also met with us to share her experiences and ideas. Eventually a building was designated which was about 120 feet long and 30 feet wide. It has been the old prosthetic shop and as I entered it I was less than enthusiastic, for it was dark, dingy, and the roofing was falling in. There was glue all over the walls, plaster of paris scattered around, old lumber stored in the building, broken partitions throughout, holes in the floor and one or two leaky faucets in the building.

After some diplomatic maneuvering we decided that this building would not be big enough but there were no other buildings available at NRI for the blind project. That left only one alternative – make more space. This building was parallel to similar buildings 30 feet to the left and 30 feet to the right; by putting a wall at each end and a roof from building to building we could then convert this space between the buildings into classroom space. Funds were located through the Military Civic Action program of the U.S. Army and a Vietnamese firm was contracted to do the work. A space was to be left around a tree and this would serve as a courtyard and recreation area for the veterans. Construction on the new area and renovation of the old moved along with good progress, according to Vietnamese standards, and when it was all finished we had a large spacious dormitory, modern toilet facilities, office space, a large typing room, braille room, good-sized storage room and a large meeting and recreation room which could also be used for orientation and mobility purposes. In the center of this enclosure was the tree and courtyard with benches which could be used for relaxation and recreation. About this time, three of the military personnel assigned to NRI were loaned to the blind rehabilitation project by Dr. Vi; they were Lt. Phan Minh, Lt. Nguyen Vann Ho and Sgt. Vo Quang Hai. Sgt. Hai had had some training at the Girls School for the Blind and he was familiar with braille. I had been planning a course of instruction which would give them a history of blindness and blind rehabilitation services, including orientation and mobility, the dynamics of blindness, physiology and the function of the eye. These courses included pamphlets, books, brochures and Father Carroll's *Blindness.* It was my plan that all of the personnel would go through a complete orientation and mobility training course. During the latter stages of the mobility training we could then branch out and specialize in areas such as braille, typing, handwriting, pre-vocational evaluation, counseling and testing. Our first three trainees had various backgrounds: Lt. Minh came from a well-to-do family and was out of the infantry; Lt. Ho was a ranger who had lost the lower part of his right leg and wore a prosthesis; Sgt. Hai had had no combat and was assigned directly to our program, through the quiet influence of Dr. Vi.

I felt it necessary that someone from each of the schools in the Saigon area should be trained in orientation and mobility services. Brother Girard and a tiny nun, Sister Oliva (from La San School), quickly responded to the opportunity. Miss Lieu, a young woman who is a teacher at the Girls School for the Blind, was sent by Miss Caulfield and Mrs. Tai. The Government Boys School for the Blind in Cholon, characteristically, did not respond. However, I was not yet ready to start the instructor training – we did not have enough people and I did not want to begin until we did. Dr. Vi stated that he could not spare any more people at NRI. However, in a day or two he indicated that he could put on more staff if we could use disabled veterans as instructors, and I replied that indeed we could.

After a day or two the arrangements were made and we jumped into a truck and headed for a disabled veterans separation center in an unknown sector of Saigon. We crossed a tributary to the Saigon River and headed into the Saigon Dock area. As we neared the docks the streets became narrower and the people, the few that were on the streets, seemed to be of a different breed. There were no policemen in sight alghough the reputation of the Saigon dock area was one of smuggling, black market, shanghaiing, hijacking, and considerable Viet Cong activity. We finally turned into a large compound and proceeded through the buildings, talking to various groups who were going through separation training classes. Only one or two persons were interested in what we had to say and followed us into the resident center. There a command was barked out, and Vietnamese rangers and paratroopers with their red and black berets began tumbling out of the barracks. A more surly-looking bunch I have never seen, as they came forth pommeling each other, pushing, wrestling and throwing each other about. After five minutes of pandemonium, some semblance of order was established and Lt. Minh, An and I talked to the group for 10 or 15 minutes, explaining our project. At the end we asked for volunteers; there was nothing but a stony silence from the burly mob surrounding us. It almost seemed as if we were going to have to fight our way out when suddenly one person stepped forward and began asking questions, and then another, and another, and another. Soon we had a group of 10 or 12 persons around us, and we talked to them for 30 or 40 minutes, with a few then leaving the group. When we left that afternoon we had 5 of these rugged customers in the back of the truck with us.

There was Sgt. Mich of the Regional Forces crippled in both feet but even so, he took the full training course in orientation and mobility and went on to become a braille and typing instructor. M/Sgt. Chi had been a paratrooper and a jump master and was suffering from permanent internal injuries; he took the orientation and mobility course and later became a braille instructor and telephone switchboard instructor. Sgt. Chuong was a large Cambodian Vietnamese from the Marine Corps who had a disabled foot; he took the full mobility course and became a pre-vocational instructor as well; with his pipe and glass of beer he could well have been the happiest person in Vietnam. Sgt. Lam of the Regional Forces had lost the vision in one eye, but became a mobility instructor as well as a pre-vocational instructor. Sgt. Tham, from the infantry, had suffered permanent internal injuries; he took orientation and mobility training and also functioned later as a typing instructor. In April this group of five began a training course which would last until September.

Meanwhile we had been busy locating and appropriating equipment and supplies; this also involved several purchasing trips throughout the Saigon-Cholon area with Col. Davis of the U.S. Army Civic Action Program, and it took us far and wide to paint shops, lumber yards, plumbing supply centers, and other centers for supplies necessary for the buildings and programs. Over $7,000 was donated by the Virginia American Legion to the Civic Action Program for this purpose and, converted into piasters, we had a bundle that would have choked an elephant, and we always had to take an extra man along just to carry the money.

To augment these buying sprees we went on appropriation trips. This involved taking our military deuce-and-a-half truck throughout the Saigon area and to some military installations where material was available for the asking. This was one of the beauties of operating in a large foreign theatre: the paperwork could be a headache, but sometimes we could simply drive in, load up, drive away.

We also received quite a windfall from the USAID Education Branch. Before my departure for Vietnam, while visiting Perkins Institute, I was told they were holding an order worth several thousand dollars for shipment to Vietnam. They were a little hesitant in sending the order since they had read so much about black market, swindles, and other boon doggles but, upon reviewing the order, I located Miss Caulfield's name and I assured them that it would get to the people that needed it. This shipment was immediately sent to Saigon and became the property of the USAID Education Branch, and as a result, we received one-third of the shipment which included copious quantities of tape recorders, tape, braillewriters, braille equipment, and reams of braille paper. Through all of our windfalls, appropriations and purchases, we ended up with such items as electric typewriters, manual typewriters, tape recorders, fans, stoves, beds, sinks, lavatories, electrical wiring, flourescent lamps, kitchen equipment, musical instruments, bookcases, water filters, Tide soap, kerosene stoves, doormats, sheets, spitoons, note books, ashtrays, soap containers, brooms, pajamas, U.S. Army-type pajamas, long canes, sleep shades, etc. In fact, we were even able to put together a small welcome kit for each incoming blinded veterans. Our storeroom was the envy of NRI, as it was bulging with the above-mentioned items and other things such as wood and metal lathes, aluminum stocks, brass stocks, lumber, and the highly-prized cement powder.

As we moved into April we made a visit to the Cong Hoa military hospital near TanSonNhut Airport and there we talked with the chief ophthalmologist and a group of blinded veterans. Cong Hoa hospital was a sprawling complex of open rooms and wards of French vintage with yellow plaster walls and red tile roofs. We finally located the ophthalmology section and talked with the chief ophthalmologist, a young man, who expressed an interest in our project and gave us permission to talk to the blinded veterans. However, he offered no encouragement – indeed he seemed rather skeptical that we would be able to motivate any of the blinded veterans toward rehabilitation. Nevertheless, a group of some 20 blinded veterans did gather on the hospital veranda. There, next to the open wards, as we brushed away the flies we discussed the blind rehabilitation program. Many questions were asked but several of the blinded veterans walked away. It was painful to see these men with their multiple wounds, the results of mines and grenade explosions, with their head scars, missing fingers and other disfigurations, showing so little interest; indeed, their gloom overwhelmed us. We made no progress but indicated that we would come back again at another time and talk to them further.

As we drove back I found out from An that most of them either were holding out for the operation they thought could restore their sight or were planning suicide. Indeed, several had already committed suicide at that very hospital! The scene stayed with me that night: the crowded wards, the open wards, the flies, the dirty beds, the hundreds seemingly receiving no care, the food that came along on a big cart and was sloshed out so methodically. Even though I had feared that these would be the conditions – seeing them was something else.

In May we received two new students, Sgt. Le from the military police and Sister Ignace, who came from La San School. Sgt. Le was about four or five weeks behind the other students who then used him as practice for teaching what they had already learned. It turned out to be an excellent idea, for the students learned a great deal in teaching Sgt. Le and he turned out to be a rare individual indeed. Readily learning the skills of orientation and mobility, he became the best cane technician of the group. Together with Sgt. Le and Mr. An, who practiced also with the cane and blindfold, we now had a total of 14 persons who were taking the orientation and mobility training courses. We had planned to begin the program in September. At the end of May we received quite a surprise when a blinded veteran came in saying he had heard of our plans and wanted to receive the blind rehabilitation services; this young man was an ex-paratrooper who had been shot in the head, and we decided to make him one of the three persons who would start off the program about the middle of June, instead of September.

"Rod" Kossick with a group of Vietnamese friends

Miss Caulfield met with the instructors once a week discussing attitudes toward blindness and her experiences in training people in the Orient. And about this time the training group received an added stimulus in the form of a visit from Congressman Teague of Texas, Chairman of the House Veterans Administration in the U. S. In June, Dr.

Steinmetz, of the World Rehabilitation Fund Mental Health Project at Bien Hoa, assisted us in choosing two more blinded veterans to complete the trio that would more or less learn with us. All three men were intelligent and interested in rehabilitation services and were, indeed, an asset to the program.

About this time it dawned on me that rehabilitation was not a part of the Vietnamese concept, for Buddhism plays a leading role in the philosophy of the Vietnamese people. Loosely translated, many of them believe in fate: that whatever is meant to happen will happen and there is little one can do about it. Therefore, rehabilitation to change or ameliorate a disability is not part of their thinking, generally speaking. Even more specifically, the techniques of blind rehabilitation and the promise of a new way of life was an unheard of concept of Vietnam. Yet the Vietnamese people are practical: if it works, use it. Thus, through training and demonstration, the instructor group was slowly redeveloping their philosophies. However, without the dedication and intelligence of Mr. An, the blind rehabilitation project would have been dead before it started, for even those assigned as instructors probably would not have grasped the value of the rehabilitation techniques, had I dealt with them directly. Thus the idea of bringing in the three veterans in June as a pilot to the group which would begin in September was probably the most strategic design in the entire project; indeed, it was those three veterans, in the main, who convinced other blinded veterans to begin the program later. Also in June, some of the advanced instructors began training in the other subjects such as braille, typewriting, etc. The veterans, after partial orientation and mobility training, unofficially demonstrated their ability one weekend by going AWOL into downtown Saigon. Although they completed their trip safely, they were not really ready for it. This was discussed with them and they were asked to wait a little longer before undertaking another such journey.

As the rehabilitation project progressed, I found that I was getting a unique window on Vietnam. I worked with the Vietnamese all day and I also had many contacts with American USAID and embassy officials. I ate most of my meals with senior American military officers in their billets. I lived with USAID and embassy personnel. I attended numerous cocktail and social functions of Vietnamese and American persons. My quarters were next to the largest Saigon tea bar in the city. But I also had the consultation services of Dr. Steinmetz, our American psychiatrist, working at the Bien Hoa Mental Health Hospital, and I acquired a great admiration for him and his work. On my first trip to the Bien Hoa Mental Hospital we visited the ward for the criminally insane, and there we saw a man who was naked and locked in a smelly cell; he stared with glazed eyes and cried out with every breath. Some weeks later this man was out of his cell and working with Dr. Steinmetz as an assitant.

Gradually, through a myriad of experiences and exposures it became possible to separate fact from fiction regarding the Vietnamese. An illustration of this is mirrored in my very embarrassing observation that one day I discovered, from watching a mother and child, that they loved their children just as the Americans do. It also became apparent that one can, indeed, easily fall into the trap of regarding everyone in a foreign country as the same; this is, of course, a delusion. Some Americans are honest, some Americans are kind, some Americans are cruel, some Americans are greedy, some Americans are generous, and so on. True, some characteristics stand out with the Vietnamese more than with Americans, but even so they cannot be lumped in one category on this basis alone. Therefore, I began thinking in terms of rehabilitating the blind just as I would in the U.S., keeping in mind some of characteristics that stand out more with the Vietnamese than with Americans. Americans are basically nationalistic-living within the framework of political and government subdivisions; but the important part of Vietnamese life is the family and its ancestors. From the family or a group of families comes a division known as the hamlet, but this is about as far as the thinking of many Vietnamese goes. This is not true of the city dwellers but it is very true of the man in the countryside who makes up the bulk of the population. Bearing this in mind, a disabled person is then cared for by the family and, in most cases, no state responsibility is involved or considered. Therefore, rehabilitation services, particularly vocational rehabilitation services, have a different meaning in Vietnam. Also, under these conditions it is honorable for a person to commit suicide in Vietnam, which is far from the truth in the U.S. Understanding this respect for the family name and ancestral orientation can be an asset in terms of dealing with rehab services.

The orientation and mobility training program was taking shape very well. The downtown area of Saigon has many large traffic circles and a few large boulevards with about 10 or 12 lanes of traffic. Through this downtown area flows heavy traffic: pedestrians, thousands of motorcyclists, bicycle riders, tri-shaws, cycles, taxicabs, military vehicles and a few pony carts. The sidewalks in the downtown area are usually cluttered with street merchants displaying their wares: those with carts, and small stands scattered throughout the area in random fashion. One also has to contend with trees, power poles and other fixtures. The residential areas have varying conditions: some have boulevards, some ordinary streets, some dirt streets. There are hardly any sidewalks, only occasional curbing, oftentimes just paths. Moreover, in some places there were rolls of concertina barbed wire and in various places guard installations which blocked the sidewalks.

All of this was overwhelming until I became somewhat used to it. But even more importantly, one day it dawned on me that the Vietnamese were born and raised in this environment and were just as used to this as I was to an American city which was laid out in geometrical patterns with smooth sidewalks, very few obstacles, and not such dense traffic. Another factor I had to consider was that the majority of the blind persons whom we would be rehabilitating would be those from the Saigon metropolitan area or those that would probably remain in this area for a variety of reasons. Yet in downtown Saigon it was a challenge for anybody to get across the street, and getting there safely was an accomplishment. After some consideration it seemed to me a case of not being able to see the trees for the forest.

We went through the basic skills with no adaptations and then it was on to the cane skills. It seemed clear that due to the large variety of traveling conditions and rapid changes in the environment as one moved from area to area that the basic orientation skills and the cane techniques would be even more important. Exercises for facility with the cane were drilled and redrilled until the trainees had the agility of a baton twirler. It seemed equally clear that in order to cope with the variety of paving and terrain a light touch would be necessary, and the light touch was likened to reading braille. If the reader presses hard with the fingers he can discern little, but, by using the light touch there is greater sensitivity and feedback. A rolling arm, a drawn-in hand, a hand off center, a high arc or poor timing and coordination would only serve to compound the problems at the other end of the cane.

Drills were designed so that the trainee had facility in going from a dirt path to tile, sidewalk to concrete, to asphalt and on to grass. Perfection in the cane and orientation skills seemed to be the key as it generally is, but even more importantly in such an environment as this one. Although such training was hard work, the instructors were eager to push on and soon we found ourselves ready for public transportation and heading for downtown Saigon. Again the best answers were the simplest and most practical ones: study the environment, determine what can be used, apply the principles accordingly, and proceed.

With Sgt. Le taking the lead, all the instructors eventually caught the small Vietnamese bus, went to the central market, passed through the central market area and on to busy Le Loi Blvd. to locate a specific shop, then to return to the bus depot near the central market and back to NRI. We also had been concerned about persons who might come from the hamlets or be returning to hamlets. For this training we used the trails in the park behind the Presidential Palace; here we encountered grass, fields, and jungle conditions which provided excellent rural training. Our three pilot-to-pilot trainees were only a step behind us in our training; their enthusiasm bolstered by these accomplishments, they were eager to receive the first group of blinded veterans. Indeed this seemed to work out very well because as soon as the instructors had practiced and learned a skill, they then reinforced their learning by teaching it to the three blinded veterans; and by this time we found it hard to keep the three blinded veterans "down on the farm." They were busy visiting their friends in downtown Saigon, at the cafes, the school for the blind, going back to the military hospital to visit their blinded friends in the wards, and visiting relatives in the surrounding countryside.

Upon completion of our instructor training, the entire group of 15 instructors took a trip to Kuala Lumpur, Malaysia, where we spent two weeks observing the American Foundation for the Overseas Blind programs, sheltered workshops, teacher-training institutions, federation programs for the blind, social agencies, volunteer programs, vocational training (the program for the employment of blind persons), and other blind rehabilitation services. Throughout the tour I was impressed with the effort and zeal that the Vietnamese instructors displayed in dissecting and digesting each presentation; they were always punctual and followed a rigid schedule throughout the exhausting two-week period. They actively "sifted" each presentation, asking intelligent, penetrating questions and pursuing them to a conclusion. During the course of the tour they amassed a myriad of photographs and copious notes. Those who spoke to them were impressed by their acute observations and many questions, and, as a result, they formulated ideas for instituting and improving rehabilitation services for blind persons in Vietnam.

The acceptance and admiration of the Vietnamese by the Malaysians was demonstrated by the personal invitations they received and receptions held and the Malaysian press reported their activities in three separate issues including front-page coverage. A few of us also attended an educational workshop for Southeast Asia during this trip. The workshop was sponsored by the American Federation for the Overseas Blind and included the Republic of China, the Philippines, Thailand, Ceylon and Hong Kong. Before we returned to Saigon, Sister Oliva and Brother Girard became godparents for my new son, Kelly James Kossick, at his baptismal ceremony in Kuala Lumpur. On the return trip we stopped overnight in Singapore and spent the evening at Mr. An's sister-in-law's, and they prepared a delectable Vietnamese feast in our honor. Nobody enjoyed that feast more than I did, for I had come to relish Vietnamese food and the out-of-season holiday specialities they had prepared for us were a real bonus.

Because of security restrictions, Saigon, after a period of time, seemed to become a large prison. To relieve this situation I often volunteered for the Sunday flights which we arranged at NRI through Air America to return rehabilitation amputees to their homes. These flights were very enjoyable, and in making them I covered Vietnam in its length and breadth, stopping at almost every place where there was a clearing or improvised landing strip. Most of the time, since Air America did not believe in co-pilots, I was able to ride in the co-pilot's seat. From this position I had an unobstructed bird's eye view of Vietnam, and I took hundreds of feet of movie film during these flights. Sometimes we were able to witness action, particularly airstrikes which were a fearsome thing to watch; the craters left from B-52 strikes looked like long strings of parallel fox holes. The honeymoon town of Dalat, nestled in the highlands, reminded me of a Hollywood movie set. Pleiku, also a highlands town, was surrounded by beautiful lakes and rolling hills. Da Nang, and particularly Camranh Bay, had beaches and clear blue waters that would rival any in the world. The Mekong Delta from the air was so lush and green, it seemed as though it had been painted by an artist. Landing at Dong Ha once, we could easily see the DMZ and the Ben Hai River separating North and South Vietnam – in fact, we could see quite a distance into North Vietnam. At this particular airstrip, on one occasion, I had to call back to Quang Tri for another plane. When the persons in Quang Tri asked where I was calling from, I mistakenly said, "Dong Hoi." "Dong Hoi," he bellowed, and immediately I corrected myself, remembering that Dong Hoi was a North Vietnamese fortress a few miles across the border.

On more than one occasion, I stayed overnight in Da Nang, sleeping in the downtown, delapidated hotel with a grease gun under my bed. On these trips I never let anybody carry my briefcase, as the broken-down grease gun and clips of ammunition weighing 25 pounds would most likely have "tipped off" any locals looking for such a tip. On one trip, we were scheduled to stop at a place known as Go Cong. As we circled it was obvious there was no landing strip but, coming very close to the ground, the pilot buzzed a piece of road two or three hundred yards long; the cattle and people moved into the ditch; we made a circle and landed on the road. After letting off a few passengers we picked up several GIs who were heading for Saigon, and when we finally shoehorned them and their full dufflebags into the plane, there was barely room to breath. The pilot, looking back, said, "Oh brother! I didn't see that last five hundred pounds get on." With that, he shoved the throttle into the carburetor and we shuddered down the road and lumbered into the air like Falstaff climbing a flight of stairs. Most of these things were just added attractions, and they really did not cost anything extra!

The skill of these pilots was amazing; this they demonstrated very well in their takeoffs and landings, and this is really the only time the plane is exposed to groundfire. Their landing patterns would confuse even a computer and the drop rate usually made the altimeter sing.

Phan Rang always sticks in my mind for two reasons – one of which was a flying experience. We were in a C47 going in for a landing during a rainstorm on a slippery steel mat runway; as we landed we were caught by a crosswind and began to skid diagonally, setting us up for a dangerous ground loop. The pilot skillfully applied the power, regained control and took off. The Vietnamese passengers were frozen in stark terror, and I looked at them and laughed heartily, shrugging my shoulders. However, all that was more for my benefit than it was for theirs! Assuming we were now going to skip this place, I relaxed a little but only until I realized we had gone a full circle and were making another pass for the runway! This time we did complete the landing.

During August 1967 the instructors finished their training and so eager were they to begin the rehabilitation program, we did not wait until September. Our three pilots to the pilot project had been so busy at the blind section in Cong Hoa Hospital that we were able to receive seven more of them at NRI. We also received one congenitally blind person, making a total of 11 trainees. Just the fact that our environment was so different from the military hospital carried great weight with the trainees: our dormitory was large and spacious and we had excellent sanitary facilities. The food was much better, and they enjoyed the attention they were receiving from the staff, as well as the special reception they received from the other disabled veterans already at the National Rehabilitation Institute. About this time we also worked out an agreement with the U.S. Army Third Field Hospital in Saigon to do ophthalmological screening and restorative surgery on Vietnamese patients.

The curriculum guides had now been completed for the adjustment and pre-vocational evaluation program intended to be of 20 weeks' duration. Dr. Steinmetz continued to visit the program, instructing us in counseling techniques and meeting individually with the blinded veterans. Miss Caulfield also assisted in teaching English classes to those who wished to learn English, mainly for reasons of future employment.

While continuing with these 11 trainees we began "gearing up" to receive a second class of trainees and also for vocational training programs for the present 11, and during this period we began reaching into the community to make contacts with the Friends of the Blind Association, the Military Civic Action Program, and others in an attempt to improve and complement each other's services. In November we acquired an addition in the form of a large room, 50 by 30, which was used to house wood and metal lathes, floor looms, work benches, plus storage area. We had now tripled our physical plant size from the one dirty, broken down abandoned building with which we started. I soon became the butt of jokes around NRI regarding my powers of expansion, and Dr. Vi did not miss this opportunity for mirth, which he keenly enjoyed. He and I did not always see eye to eye, yet we respected each other's viewpoints. My sometimes idealistic views were often counterbalanced by his realistic assessment of the Vietnamese people. Dr. Vi, a refugee from Hanoi and a renowned cardiologist, was highly respected and equally feared. Though John and I did not always agree with his methods and policies, he did get results. More than once, I was met with a barrage of reasons why my plans were unfeasible, only to discover that my objectives, or the means of achieving these, soon afterwards dropped at my doorstep. Indeed, in the beginning, I think he sometimes responded out of sheer exasperation to this "crazy American." I respected this man for demanding and receiving complete control over all forms of aid, and with good reason. Too often his people had been the victims of medical malpractice, fraud, empire builders, and publicity seekers. Had I not been able to ride the coattails of John Wells' rapport with Dr. Vi, the blind rehabilitation project may have come to nothing at all.

During the fall months the adjustment and pre-vocational evaluation program pushed on and we continued to expand into other areas to increase the trainees' horizons. Dr. Fuji, a Japanese neurosurgeon with the Columbo Plan, assisted some of the shrapnel-riddled veterans. Mr. Halleck Rose, Director of the World Rehabilitation Fund in Hong Kong, visited us for evaluation and consultation. Social activities were encouraged with Vietnamese groups, blind schools, American military groups, and volunteers from USAID employees in Saigon. During December we did considerable evaluation and counseling to determine a vocational course for each veteran. Telephone switchboard operation and industrial placement were the most popular choices. At this point we also began thinking about developing a blind rehabilitation program at the NRI in Da Nang. Although I had some plans in my head for developing and classifying blind rehabilitation programs, I was waiting for the Vietnamese to do the same. In our staff meetings we discussed each student's progress and corresponding changes in instruction. We also discussed the idea of formalizing the blind rehabilitation program. It was decided that we could best achieve objectives in three phases: Phase 1 – adjustment and pre-vocational evaluation; Phase 2 – vocational training; Phase 3 – selective placement and followup service.

Therefore, much of our time was now being spent on gearing up for Phase 2, and we would need some new instructors to be able to operate Phase 1 and 2 concurrently during the spring months of 1968. Classes continued through January 22 and then were recessed for Tet, the Chinese New Year holiday, which lasts approximately two weeks. I spent two weeks during January taking the telephone switchboard operator's course given by the telephone company in Malaysia and, after completing this course, I observed several Malaysians working as switchboard operators in the Kuala Lumpur area. During the first part of February, I was in Bangkok to observe employed blind persons in a school for the blind. There I observed one girl who was working on the United Nations Mekong River Project and noted that she could take dictation at 130 words a minute and typed at 60 to 70 words a minute. Moreover, during the afternoon I observed her, she made no typing errors.

During early February, the Tet offensive broke out and all communications and air travel to Saigon were cut. As a result I was not able to return to Saigon until the Embassy allowed my return on February 17, 1968. The reports coming out of Saigon at that time were very confusing and sketchy and I was fearful for the others working the project with me, both Americans and Vietnamese. I had several friends in Saigon who also had families in Kuala Lumpur and no word was heard from them for many days. We were all very much concerned. Some reports said that as much as half of Saigon had been destroyed and Dr. Howard Rusk, President of the World Rehabilitation Fund, and Jack Taylor were extremely worried since they could obtain no word on any of us. I thought that our New York office knew I was in Malaysia because my itinerary had been sent to them, but apparently it was not received. In a letter from Jack Taylor I found out that a military helicopter had machine-gunned NRI – understandably, since they were firing on anything that moved and some people happened to be moving around inside the compound. Fortunately, no one was hit and there were only some holes in the roof.

Dr. Rusk, in his *New York Times* column, expressed his concern for the Vietnam staff from whom he had received no communication during this period. He wrote:

> "This last week has been an agonizing one for all Americans, especially for those with loved ones or friends serving Vietnam. It has been most painful, from watching television and reading the newspapers, to know of the death and destruction from North to South, and East to West. No part of Vietnam has been spared. Six American missionaries working in the leprosarium in the highlands 170 miles northeast of Saigon were killed by the Viet Cong. Three of those slain were women. Bodies of the missionaries were left in the area and wired with booby traps. To this writer, who bears responsibility for administering a technical assistance program for the rehabilitation of amputees, paraplegics, and the blind in Vietnam, the last ten days have been ten days of continuing anguish.
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> "From the military at least, one can get word through channels of what had happened but how does one know that 'no news is good news' when all the channels of communication are closed? Currently, the World Rahabilitation Fund, a small United States voluntary agency, has an international staff of six experts assisting the NRI in Saigon and its two branches in Cantho in the Mekong Delta and Da Nang near the DMZ which are expanding and improving their rehabilitation programs. What has happened to the branch in Cantho? The last report was that one-half of the city had been destroyed. What happened to the mission director? He is a rehabilitation administrator from Oklahoma who left the security and safety of a university professorship to go to Vietnam. Being part Indian and a member of his tribal council, perhaps it was the suffering of his ancestors that impelled him to seek out a mission of compassion in an area of personal danger. Over and above this man's heavy responsibility, Sunday after Sunday on his day of rest he has borrowed an airplane and personally flown up and down the coast picking up and discharging the amputee patients.

"Ten days ago he and his fiance, an American secretary from the Agency for International Development, were scheduled to fly to Hong Kong to be married. Where is he now? Has he survived? There is no word.

"Blindness as a result of glaucoma affects four percent of the civilian population in Vietnam. Added to this tremendous caseload are the hundreds of blind war casualties.

"There is one specialist in rehabilitation of the blind in Vietnam. He is a 30-year-old instructor from North Dakota. His wife and four children under the age of six and his responsibility to them did not outweigh his compulsion to help the blind in Vietnam.

"His wife and his four little boys are living in a so-called safe haven nearly one thousand miles away in Malaysia. If he is lucky and if there are spaces available and he can get away from his work, he spends a short weekend with them once a month. What has happened to him? Does his wife know? No word at this end.

"Among the staff in Saigon is the dedicated young French physician who completed his training in rehabilitation and medicine in the United States and then volunteered for assignment in Vietnam, even though he realized it was especially difficult for a Frenchman in Vietnam. He has completed his tour and had reservations to return to Paris by way of Tel Aviv to visit his parents at the end of this month. What has happened to him? No report.

"There are the stories of only three of more than two thousand international personnel working in government and voluntary agencies serving the sick, destitute, and homeless Vietnamese civilians.

"The effects of war, any war, any place, any time are always tragic. Just as there are military heroes on the battlefield in Vietnam, there are civilian heroes working and serving behind the lines. In our daily life, it is often the wounds that show no scars that are the deepest and most painful; so it is in war. It is frequently the unsung heroes who make the greatest sacrifices, but also the greatest contributions to eventual goals of peace."

When I first read this article I was taken by surprise, but upon reviewing the situation, I realized that for 10 days Dr. Rusk was unable to contact any of us and that during this time civilians, Americans, reporters, and others were being slaughtered freely, fighting was going on in downtown Saigon, and sections of the city were being attacked by air to blast out the Viet Cong. Certainly it was good fortune that we were all unharmed, and those 10 days must have been an eternity for Dr. Rusk and others who knew us.

When I returned I found that the billet at the end of the block from my residence had come under heavy attack and three GIs had been killed. A block away at the waterfront, heavy machinegun fire shot up the area and several Viet Cong were killed. At last the war had arrived in Saigon. There was so much barbed wire strung around the city that it seemed that it could have encircled Vietnam itself several times over. Everyone had an "iron" strapped on at all times. Vehicles, as they moved down the street, looked like porcupines with barrels sticking out in all directions. Jeeps with machinegun mounts patroled the streets. Helicopters buzzed incessantly like large dragon flies, criss-crossing back and forth over the city. Many areas I traveled were now sealed off, some bombed and burned out, others riddled with bullet holes. The hospitals were filled with the wounded. NRI has been turned into a casualty center. I spent one morning in the Saigon Hospital with an Australian physical therapist who was busy setting fractures. The wounds were atrocious. Men, women and children – no one had been spared. I saw the remaining feverish two-thirds of a young girl lying on a bed in delirium, and I did not say any prayers that she would survive.

From the rooftop in the late afternoons and evenings we watched the fighter bombers at work in the outskirts of the Saigon area. At night we could see the "spookies" at work, the C47s with the mini-guns which fired several thousand rounds per minute. With every fifth round a red tracer – it looked as though these gunships were actually raining a stream of red down on the countryside. We could hear the chug-chug of machineguns and watch the tracers ripping out back and forth across the marshes on the other side of the Saigon River. More than once I was awakened by the gentle swaying of my bed in reaction to the B52 raids within 15 or 16 miles of Saigon. The roar of the bombs, even at that distance, was audible. One night a group of us, wearing white T-shirts, stood on the roof watching the war; suddently there was a whiz and a snap over our heads. I beat everyone to the deck, and one by one we crawled off the roof. We could not tell whether it was a stray bullet or a sniper, but in any event those white T-shirts were too good a target. The next day when the PX opened I bought the darkest shirt I could find and I did not mind at all that it was too large.

The sound of small arms fire continued throughout the city for a couple of weeks but nobody paid much attention to it unless it was within a few blocks of the immediate vicinity. The sounds of artillery also continued around the clock. Terrorists continued shooting in the streets of Saigon, and there were several incidents per week; many Americans were included among the victims. The "white mice" had just about forgotten to use their whistles, finding that a rifle shot was much more effective. A few Americans became obsessed with the situation and some ended up in the psycho wards of the hospitals; others were returned to the U.S. Rumors of a second attack were rampant and six nights out of seven the word spread that "tonight is the night." Everyone claimed to have a pipeline to the VC and "for sure tonight the next attack will come."

By the time the Russian rockets began landing in our city, I had moved from my residence into John Wells' apartment, since there was now a vacancy. For a period the rockets came rather regularly and we erected a sand bag bunker around our shower. The building I had left in downtown Saigon had been sprayed with debris twice, once when the National Assembly was hit with one of the six-foot rockets, a second time when the building next to it received a direct hit. The Vietnamese called these rockets "whispering death," since they made the sound of wind going through the trees as they descended upon their helpless victims. It was common knowledge that the rockets were nowhere near accurate and therefore were not really a military weapon, but were used purely for terrorist purposes.

The Palace was in the center of Saigon on a tract of ground about a quarter-mile square and, try as they may, the Viet Cong just could not drop a rocket on that section. All around it they hit houses, a church yard, a monks' dormitory, the French Hospital, the Saigon River, a downtown apartment building, downtown garage and the traffic circle in front of the central market. (It was passed on with some authority that the Viet Cong sent formal apologies to the French Hospital for the misdirected rocket.)

Due to restrictive curfews, operations at NRI were somewhat slowed, but nevertheless, during this period, we began training five new instructors; it was felt that they could lighten the load so others could go into vocational training areas. Many of our staff meetings now centered around the techniques of developing job employment opportunities for blind persons in competitive occupations. We also began training Mr. Lam, Mr. Chi and Mr. Hai in telephone and switchboard operations.

The first class of Phase 1 had now completed their adjustment training and pre-vocational evaluation. A few trainees thought that they would probably not be living in the metropolitan area, and a discussion evolved as to how far we should take them in orientation and mobility training. It was finally decided to bring each person up to his full potential even though the trainee felt that perhaps he would not use all of these skills. In retrospect, I believe this encouraged some veterans to set their sights higher after finding they could negotiate a large city and the dense traffic of downtown Saigon. As vocational training and possibilities were discussed, some who earlier indicated a desire to return to the countryside were now considering making a new life in the metropolitan area. We did not have a single casualty among instructors of blinded veterans in orientation and mobility training skills. On several occasions, when a person displayed a tendency to move without checking, or to use a foot or hand in place of the cane, I admonished them with, "You can always get a new cane," and the Vietnamese, bright and pragmatic as they are, had no difficulty in getting the message of this admonition. In fact they held me to it, and more than one cane was replaced that had "duelled" with spoked wheels.

The Long Cane in Action

In April, 15 veterans and civilian trainees began Phase 1 – Group II – but we did not receive as many veterans as we had hoped for. One of the problems we were faced with at the time was that the blinded veterans did not want to do anything that might change or jeopardize their military status, and this was something that would have to be worked out with the Ministry of Veterans Affairs. Another problem was that South Vietnam was gearing up for full military mobilization, and when this occurred we might lose some of our instructors. The telephone switchboard was donated by the British Embassy and I began training four of the group at once; another student began learning massage and one started training as an interpreter; others were preparing for placement in industry. In addition, during this period we were visiting different industries and government offices in search of further employment opportunities.

Over the next few weeks we began to find ourselves spread rather thin. The demands for orientation and mobility were great, and most of the instructors felt that six hours a day in the hot Saigon sun was too much. It was at this juncture that the idea of training every possible person in orientation and mobility skills began to pay off. The budget was approved for more personnel and we hoped in the next few months that we could obtain persons who could be trained in the techniques of blind rehabilitation whereby our programs could be expanded to the NRI centers in Da Nang and Cantho.

During June I returned to New York, via the Pacific, for consultation and to make a progress report to the World Rehabilitation Fund. On my return I continued on an around-the-world journey visiting London where I met with Mr. John Wilson, Director of the Royal Commonwealth Society for the Blind. Mr. Wilson wanted to help the blind veterans in Vietnam and said that he had hoped that he could send one or two vocational training experts to the National Rehabilitation Institute. From London I hopped to Paris and visited for a few days with Dr. Pelosof, the French physician who worked with us for a year in Saigon. And when I returned I found we now had some veterans well along in telephone switchboard training, others were attempting training in typing, some in physical therapy, and the possibility of working in a cement block factory was being explored.

Soon the vacant National Rehabilitation Institute buildings in Da Nang were reclaimed by the Army, so we were not able to begin a blind rehabilitation program there at that time. By August our status could be thus summarized: *Class 1* – One person continued in training to become a translator at USAID; two veterans were employed in a factory making medals for soldiers; one was in a bakery; four were telephone switchboard operators with the Ministry of Education, the National Rehabilitation Institute, and the Veterans Administration. One man was employed at the Vietnam Sugar Company operating the machine that fills 220-pound sacks with sugar. This made nine. One veteran, an older amputee, did not want to go into vocational training or job placement and returned to his village; it had been thought, in the beginning, that he desired only to return home; however, he was accepted into the program with the hope that he might find the motivation to continue, and he was to be considered for future vocational training and for job placement. The remaining veteran in this class was exploring the possibility of placement in a pharmaceutical factory.

Class 2 – It was anticipated that this class would finish adjustment training during August, and four students in this class were already placed; the remainder would be placed in jobs or in vocational training. During the month of July the students had a large celebration in honor of the occasion of six of them achieving their elementary certificates.

Four blinded veterans were now in training in a large bakery, and An and I went one night to evaluate their progress. Their shift started at midnight, and they usually worked until about seven o'clock in the morning. Because of curfew restrictions, this meant that we would have to go out to the bakery in the early evening and remain there overnight. This provided a good excuse for me to enjoy another of the many restaurants in the Saigon area. An and I dined together that evening – enjoying a hearty meal of fish soup, Vietnamese beer, fried delta eel, pork fat, rice, some greens and a gelatinous dessert. Then we loaded our vehicle with a cooler of drinks and headed for the bakery. It was located past TanSonNhut airport, in a veterans retraining center which seemed to be the last outpost; there was one little guardhouse which could have been knocked down with a baseball bat, and the sentry was armed only with a 30-caliber carbine. As we entered the training center, I was impressed by how well the grounds were kept; the buildings had been freshly painted and everything looked as though it were well cared for. (This did not happen often in war-torn Vietnam.)

We toured the facility and met the four blinded veterans who were in training, and then we all went over to the dining hall. We produced the cooler of drinks and enjoyed a couple of hours of conversation, and then everyone turned in for an hour or two of sleep. I myself caught 40 winks lying on a mess hall table.

At midnight everybody was up and hustling about the camp; we went over to the bakery where the huge ovens had been fired up. First the dough was mixed in large tubs and then the work of our men began: standing around large tables, they took pie-sized pieces of dough and began rolling them into the long roll that would become a loaf of French bread, and this was an art that took several weeks to learn. However, three of the blinded veterans were already doing quite well. After doing this for several hours, the baking process started. A couple of bakers with paddles that had 10-foot handles were putting the loaves of dough into the oven which was some 12 feet deep and 12 feet wide, and taking out those that were already done. It was amazing to watch the men with the paddles working perhaps a couple of hundred loaves of bread in the oven at one time, and the amazing thing about it was that they never burned a loaf. After all the bread had been handled and put into baskets for shipment, it was nearing seven in the morning and the shift was finished.

We headed back to NRI for another day in the blind rehabilitation section – the evening had been so interesting that I was not even aware that I had been standing all night long!

Steadily over the last few months the Vietnamese had been taking more and more of the initiative in the blind rehabilitation section and they rarely came to me now for consultation. They were developing their own jobs, developing their own budget, discussing a program of national services, arranging their own instructor training, and had found their niche within the Vietnamese Government, specifically the Ministry of Veterans Affairs.

The time had come. While it was not easy to accept, it was easy to see that my departure should be imminent. I had designed what I meant to be a truly Vietnamese project, but it gave me a shock when I came to a full realization that such a project had come to pass. It was a ritual for Americans to mark off their last 90 days in Vietnam, and servicemen particularly did this. Much ado was made about being "a short timer" and ditto sheets were circulated describing how a returning American would stand in the bathroom by the hour just to watch a flushing toilet.

Somehow these things did not seem to apply to me, for little did I realize that I was now more Vietnamese in philosophy and friendship than I was American. In the beginning I was aghast at the heat, the dust of Saigon, the health habits of the Vietnamese people, their slow passive methods of doing almost everything, the unreliable electricity, the erratic plumbing, the PTT communications service (which I always said stood for part-time telephone), the lack of material goods and many other things that Americans usually objected to while in Vietnam. Now I did not notice any of these things – in fact some of the philosophy and serenity of the oriental way of life had become ingrained, and I was spending far more time with Vietnamese than I was with the American community. But, saddened as I was at the thought of leaving my friends and the project for the blind, I realized that I must.

I notified USAID-Vietnam, Dr. Rusk and Mr. Taylor that the objectives of the blind rehabilitation project had been attained and that I was requesting termination of employment at the end of September 1968. USAID and WRF concurred. Lt. Minh, Director of the blind rehabilitation project, had warmed up considerably to the program and his responsibilities. He was now commanding the respect of the staff and students and displaying confidence and direction in piloting the blind rehabilitation project. Since Mr. An had always been an employee of the World Rehabilitation Fund, he really had no position of authority, but his acumen in discerning a situation understanding the rehabilitation process, his ideas for program development, and his foresight concerning what would be tenable and what would be detrimental were assets on which I felt the program could depend. An had one American-like quality which at times seemed almost to alienate him from the other Vietnamese, and this was his desire to move now and get the job done even if it required social change. One of my concerns in leaving the project was the fate of Mr. An, but before I left it was determined An would remain as a WRF employee and continue as a consultant with the blind rehabilitation project at the National Rehabilitation Institute.

By this time the graduates of the blind rehab section were working as bakers, interpreters, jute bag millworkers, telephone switchboard operators, x-ray darkroom technicians, and clerk typists. The second class had completed Phase I and was now in vocational training. Of the 25 persons thus served in the project we felt that in only one instance had we failed, and this was with the older blind amputee who had chosen to return to his family and village rather than to go for training and placement.

NRI was at this time preparing to receive its third class of Phase I. We felt that the project was somewhat understaffed but plans were being made to train a new group of instructors. Many of the present instructors had now received training in telephone switchboard operation and had had enough exposure to job development and vocational training so that they were expanding into new areas on their own initiative.

Over the last few months I myself had been working with the USAID-Vietnam office attempting "to spring" funds to develop NRI blind rehabilitation projects at Da Nang and Cantho, but up to this point I had been unsuccessful. In support of my request I had written an interim final report and this outlined the training project at NRI and the employment that the blind veterans had received through the project. I concluded the report by saying:

> The blind rehabilitation project was established as a pilot project to determine if such a program of services for blind persons was feasible.
>
> Blindness is a catastrophic disability in any country. It affects the afflicted person, his family, surrounding persons and ultimately the public itself.

> This pilot project was undertaken in a country that is rural, family-oriented, lowly educated and mostly unskilled. These factors all magnify the disability of blindness. Before this project began, blind rehabilitation was not part of their philosophy, thus making it even more difficult.
>
> Employers thought of blind persons as beggars or those that should be cared for by the family until shown, by the fruits of this project, that blind persons can be independent, working members of their society.
>
> This pilot project has proven in numerous and varied instances that this is possible. In only one case out of the 25 persons served did the project fail to meet its objectives.
>
> Because the second class has only recently graduated, not all of these persons are yet placed in jobs. However, we have every reason to believe they will follow the paths of those before and achieve this objective.
>
> The road has not been an easy one. The Vietnamese staff has worked extremely well and long, and for this reason success has been achieved in the face of an enormously difficult and intricate task.
>
> They have literally taken the lives of these blinded persons into their hands and remolded them into the image that society requires. The success of the blind rehab project speaks for itself.
>
> It seems incongruous that its reward should be the denial by USAID that the expansion of centers for blind persons in Da Nang and Cantho is worthwhile.

This interim final report was augmented by a paper entitled, *Establishment of a Blind Rehabilitation Center in South Vietnam.* This paper concluded with the following paragraph:

> The most noticeable aspect of the program is that the veterans, as a group who formerly had no future, responded with enthusiasm and through their successes they established the success of a prototype program which has not been approached in Vietnam.

These two papers were distributed to key USAID personnel in Vietnam and apparently they began to make a ripple, for a letter was drafted by one Mr. Golda of the USAID-Vietnam office and sent to a list of officials that could turn the key. Here is the text of Mr. Golda's letter:

> Mr. Kossick approached me requesting information pertaining to the success of NRI budget proposal for approximately US $257,000.00 which was to be used for the expansion of the NRI in-country blind rehabilitation program. I informed Mr. Kossick that on the previous day during the directors' CAP review the US $257,000.00 request was denied and consequently WRF's proposed contract budget was reduced by that amount. I hastened to explain that this request was denied for a number of reasons among which were: (1) the lowest foreign aid budget appropriation in history; (2) programs desired to see completion of the current amputee rehabilitation related construction projects at Qui Nhonn and Cantho before the initiation of any new projects; and (3) the lack of an accurate statistical picture of the magnitude of the blind

problem caused by war-related injuries and other causes. I went on further to explain that the emerging programming philosophy of the mission was that in the near future it would become necessary for the Vietnam Government to assume much more of the financial burden for their on-going projects. This was considered a realistic position assuming a cessation of the hostilities in the foreseeable future and the resulting reduction of the National Defense budget. Redirection of funding priorities could then be effected by the Vietnam Government. This, in effect, was another reason for the guarded look which was given to this request.

Mr. Kossick indicated there is a great need for blind rehabilitation programs in Vietnam and that the current off-the-cuff estimates by the World Health Organization indicate there are now better than 200,000 totally blind persons in Vietnam. Last year alone over 2,000 war veterans were treated at Cong Hoa Hospital whose blindness was attributable to war injuries. (More accurately the hospital records indicate that thus far a total of over 2,000 veterans has been treated for blindness at that hospital.)

Mr. Kossick further explained that a successful rehabilitation program for the blind in Vietnam has been proven to be feasible by the completion of two classes in the NRI/WRF Saigon Pilot Project over the past year and a half. He maintained that this is a problem of great social and humanitarian magnitude and should be reconsidered by USAID for future funding.

I indicated that this proposed funding for this project has been placed in the fiscal year '69 project budget submission and that when it was cut it was not reinstated in the fiscal year '70 budget. I further indicated that before USAID could reasonably consider providing funding for this project in future years the following questions would have to be answered: (1) What is the actual statistical picture of the magnitude of the problem? (2) What would NRI's proposed budget be in terms of dollars and piastres? (3) What other free world assistance could be solicited in the attempt to shift from or share funding responsibilities with USAID? (4) What financial contribution would the Ministry of Defense be able to exhibit in support of this program? (5) How enthusiastic is the Ministry in the initiation of this program and what internal priority do they assign to it? (6) What in-country resources in the terms of trained manpower exist on a recruitable basis which could defray the cost of such a program? (7) If the programs were funded, what would be the projected time of duration of USAID support?

I indicated that all these considerations would have to be examined and answered in minute detail before any further consideration by USAID would be possible. I also stated that even if this program were to be reviewed at a later date there was no guarantee whatsoever that USAID would be able to provide the required financial support.

I suggested that Mr. Kossick brief Mr. Wilson, new WRF Director, Saigon, on the details of the problems so that Mr. Wilson could continue to gather pertinent information.

I further suggested that possibly Mr. Kossick work jointly with Dr. Vi and members of the American MACV-ARVN Medical Liaison branch to begin to compile necessary statistical data. I referred Mr. Kossick to Col. Arnando Correa of the MACV Surgeon's Office. At this writing Col. Correa is currently on leave. Upon his return on the 23rd of the month I will explain to Col. Correa the nature of the problem and solicit from him any support he may be able to render to Mr. Wilson and Kossick and Dr. Vi.

It is suggested that this entire matter be held in suspense and that it be given serious reconsideration during next year's budget preparation. Attached are copies of pertinent background information for your consideration. Signed, Tony Golda.

Since that time the Vietnamese have depended more and more upon their own resources including the manufacture of long canes. The Vietnam Government has also given official recognition to the blind rehab project by allocating the piastre funds necessary to build centers at Da Nang and Cantho, and USAID-Vietnam has since allotted the matching funds for the new centers.

At this point I also reviewed with the Vietnamese their plans for future blind rehabilitation services in South Vietnam. In part the following plan was drawn:

(1) Establishment of an agency for Division of Services to the Blind; (2) Survey of blindness and a national registry; (3) Ophthalmological screening and sight restoration; (4) Trachoma prevention plan; (5) President's Committee on Employment of the Handicapped; (6) National Prevention of Blindness Weeks; (7) National Library and Devices Distribution Center; (8) Organization of Blinded Veterans Association; (9) Organization of Vietnamese Association of Workers for the Blind.

An agency within the government of South Vietnam interested in the problems of blindness should develop an organization of services for the blind.

The first responsibility of this organization should be to conduct a survey of blindness in South Vietnam as conditions allow. As a result of this survey a National Registry of Blind persons should be established and maintained.

Following the survey an ophthalmological screening and sight restoration program could be undertaken concurrently with a trachoma prevention scheme.

This organization should also plan, assist and coordinate a President's Committee of the Employment of the Handicapped and a National Prevention of Blindness Week.

The President's Committee will be responsible for the television, radio and poster campaigns to educate and encourage the public regarding the abilities and occupational potentials of blind persons.

The organization should develop and maintain a National Library and Devices Distribution Center. This would include volunteer braille services, a braille printing and storage program, inception and storage of tape materials, and a clearing and importing program for devices for the blind.

Organization of a Blinded Veterans Association and a Vietnamese Association of Workers for the Blind would be useful in developing and improving services for blind persons in Vietnam.

Finally it is hoped that a permanent center for the blind can be established. The center would be in conjunction with a self-contained, sheltered village for other handicapped persons. This multi-disability rehabilitation setting is particularly conducive to successful rehabilitation.

This center would include for the blind Phase 1, Phase 2, Phase 3, and a sheltered workshop. This workshop would provide evaluation and also, for those few who cannot compete, terminal employment.

Also located in this permanent center should be the National Offices for Services for Blind Persons.

The devices distribution center, national braille services and library, recording services and storage, statistics center and other such centralized services can be included here.

While it will take years to develop such a program, many parts are already in operation and certainly they have some well-defined goals for which they can strive.

The Vietnamese did not let me wallow in sadness during my last days in Vietnam. There were several rounds of parties and I dined with many friends. One of the most memorable occasions was an evening with Mr. An, his wife and two young boys. On another occasion the staff took me out to dinner and we had a giant feast of Vietnamese delicacies which I thoroughly enjoyed, including, of course, the pungent nuoc mam. This nuoc mam is made by filling a barrel full of fish and salt and letting it sit until it becomes ripe; at this point the liquid is drained off the top and that liquid is known as nuoc mam. This seasoning is used quite a bit as we use ketchup; usually very hot red peppers are added to it "to beef up" the flavor, if you can imagine that! I found nuoc mam particularly delightful and on more than one occasion my friends told me that I was overusing it. Needless to say, anyone who uses nuoc mam regularly is easily identifiable at some distance, and therefore I usually avoided it a few days before going home on leave. At this particular feast I was truly the guest of honor, being given the cooked fowl head, considered the most delectable part. The staff also presented me with a beautiful Vietnamese painting which is a real work of art peculiar to the Vietnamese. It depicts a philosophical legend which so often is a part of the Vietnamese culture.

Just before my departure Dr. Vi requested that I wear a suit the following day as the Ministry of Veterans Affairs wished to give me a decoration. This unexpected turn of events surprised me, but the following morning I found myself at the Ministry of Veterans Affairs. The place was filled with dignitaries and amidst great pomp, a citation for meritorious service was read to me. Then the Minister, himself, gave me a copy of the citation and presented me with a medal that would have looked ostentatious even on a Russian General. The ceremony was followed by a tea reception which I must confess I thoroughly enjoyed. That commendation and medal will always be highly prized, for it signifies to me the true interest that the Vietnamese have taken in the blind rehabilitation project.

Since my return from Vietnam I have maintained contact through correspondence and I have been amazed at the continuing expansion of the program. They have, for example, formalized an instructor training program which is described in this thumbnail sketch.

Outline for Training Course of Instructors for the Blind

(Third Group)

******

A. Theory (General)	
1. Introduction and Orientation	Mr. An
2. History of Blindness	Mr. An
3. Development of Services for the Blind throughout the world	Mr. An
4. Anatomy and Physiology of the Eye	Dr. Vi
5. Causes of Blindness	Dr. Vi
6. Psychology of the Blind	Mrs. Mary Jo O'Connor
7. Interrelationship between the Instructors and the Patients	Mrs. Zora Thompson
B. Orientation and Mobility	
1. History of Orientation and Mobility	Mr. An
2. Equipment and training aids in Orientation and Mobility	Mr. An
3. Basic Skills	Mr. An
4. Outdoors Travel	Mr. An
5. Public Transportation	Mr. An
C. Pre-vocational Training: Its Main Objectives	
D. Vocational Training General Concept	Mr. McCluskey
E. Braille	Mr. Hai
F. Typing	Mr. Thanh

The formal training lasts about four months, the braille and typing being optional. The orientation and mobility instructors then serve an apprenticeship working under the tutorage of the senior instructors.

Dozens of blind veterans and some civilians are now employed in a variety of jobs including darkroom x-ray technicians, telephone switchboard operators, Morse code operators, hospital laundry workers, teletype operators, bakery shop workers, interpreters, and medical transcribers. They have also looked into the possibility of sending one or two students to the U.S. to learn piano tuning. For improved staff training they have been in touch with the American Foundation for Overseas Blind and the United Nations Social Welfare Training Unit. Mrs. Jo O'Connor, psychologist and WRF employee, has been assisting them in counseling services and developing standardized testing. Mrs. Zora Thompson of the Vietnam Christian Services has assisted them in social and recreation activities and in orienting the instructors to techniques of social casework. Mr. McCluskey of the World Health Section of the International Labor Office has given assistance in vocational training and developing employment opportunities. With the aid of the U.S. Military Civic Action Group and technical advice from the Chinese Agricultural Mission a poultry-raising project has been successfully instituted for some of the blinded veterans. A library for the blind is now underway with the services of braille transcribers and a thermoform duplicator. Efforts are also being made to work with blind education and rehabilitation groups to standardize a Vietnamese braille code.

Now with the blind project expanding to centers in Da Nang and Cantho, the blind rehabilitation program in South Vietnam will begin a new cycle. More staff will have to be procured and trained, equipment and supplies will have to be obtained, and undoubtedly with the advent of the satellite centers, fresh ideas will be pumped into the program.

Why did this program take roots so firmly, grow so fast and become so successful? I think in answering that question one has to assume there are manifold reasons. Without the proper administration and backing, it would have been impossible. Dr. Vi, John Wells, Jack Taylor and Dr. Rusk all were the kinds of persons that made it go – each contributing in his own special way. I am sure that at times Dr. Rusk and Jack Taylor must have thought I was suffering from sunstroke or the Vietnamese typist had lost something in the translation. But in spite of these instances, maximum backing was the order of the day. This paragraph from a letter of Jack Taylor's is indicative of their support:

> My own philosophy on this kind of operation (and I have had considerable experience in these matters over the years) is that you pick people to work in such projects in whom you have confidence, then give them the power to plan, to act and make decisions, and then the home office job is a logistical support role in helping the field staff. It works fine, if the field staff and the home office staff are competent and our success in Vietnam, I think, rather proves that we have an unusually high degree of competency on both sides of the Pacific. I laugh to myself about this as I never met you, John, Richison (physical Therapist) or Dr. Steinmetz, until each of you had been employed. Of course, I still have not met Riegg (Bien Hoa project) – so I can claim no credit as a good recruiter."

Another matter that affected the tenor of the project was that, from the very beginning, I emphasized my role as only a consultant to give training and technical advice. The decisions, planning and responsibility were theirs. Of course, when I felt they should re-evaluate a certain issue I did not hesitate to say so, but even at that, my basic premise remained the same.

Another consideration is that this was the first blind rehabilitation project in the country. There were no pressure groups that had to be dealt with nor were there any historical methods or programs that had to be undone and restructured.

Finally, I think the ultimate credit has to go to the Vietnamese themselves. They saw the value, decided it was something they wanted, and worked diligently to achieve these ends. As instructors they worked harder and longer than most of the government employees there. Sometimes they broke with tradition to secure their goals and at other times they involved social changes at the suggestion of "that foreigner in their midst who did not understand their ways," and indeed I may have been guilty of intentionally using that method from time to time to achieve certain objectives. Most of the time, however, I operated within their framework, realizing that this was a cornerstone to success.

In summary, I would hope that this Vietnamese history of rehabilitation services for blind persons would be recorded as truly a Vietnamese endeavor, with some materials and technical assistance from the World Rehabilitation Fund – for I believe therein lies the essence of the matter.

Even though I correspond with them regularly and receive copies of progress reports, that cannot take the place of my love of being with the Vietnamese people. Yet the 10,000 miles has no relevance; for each individual, our relationship and all the experiences remain in my mind. My fond memories are too voluminous to be included here.

People are people, no matter where you find them. They all laugh, cry, eat, sleep and die, and yes, they all love their children. With this understanding, blind rehabilitation techniques, particularly orientation and mobility skills can be taught anywhere.

It was truly a living experience.

BLIND REHABILITATION IN SOUTH VIETNAM

By Lam Van Thach, M.D.
Director of the National Rehabilitation Institute

February, 1970

Gentlemen,

Five days ago, I had the honor to attend an inter-ministry conference with the Director General of Health and Hospitals and the Directors representing the ministries of Social Welfare and War Veterans, to discuss a National Rehabilitation program for the Blind.

The program is quite complex. As a matter of fact, there is no available data on the blind population in our country.

What we have known so far are:

– There are 800 blinded veterans.
– There are five schools for the Blind in the country:
  – Boys school for the Blind in Cholon
  – Girls school for the Blind on Nguyen Trai St.
  – Lasalle school for the Blind
  – School for the Blind in My Tho
  – School for the Blind in Quang Nam

The total number of blind pupils in these schools is roughly 150.

– Besides, the Friends of the Blind Association, sponsored by the Ministry of Social Wesfare, has 130 members and the Vientamese Blind Association, established in 1967, of which the extent being still unknown to us.

– We are also aware that a great number of blind people live scattered everywhere and they never had registered at hospitals or sought rehabilitation services at government facilities.

– At the NRI, we have had a blind rehabilitation program since April, 1967.

Up to now, we have completed five training classes and 75 blinded veterans and civilians have been rehabilitated. There are more than 100 unmet applications owing to facilities and personnel limitations.

Today, at the request of the Director General of Health and Hospitals, it is worthwhile to point out the few following ideas and experiences:

At first, a brief overview on the establishment and position of the NRI would be useful.

In 1956, the Military Orthopedic & Vocational Training Center was established in Saigon as a part of DOD, to provide orthopedic facilities and vocational training to disabled veterans of the ARVH.

With the increasing number of disabled civilians due to the war and diseases, the center was broadened into a National Rehabilitation Institute which is an autonomous agency under a Board of Directors of which the chairman is the Minister of War Veterans.

The Institute is responsible for the modernization of treatment techniques, the training of specialists and the expansion of the program, countrywide, to cope with the rehabilitation needs of all disabled veterans and civilians alike.

In the past four years, efforts have been steadily increased – three Branch Centers were established in DaNang, Quinhon and Cantho. The number of disabled people served has increased seven-fold.

The NRI blind rehabilitation program is a successful project.

* * *

This program started in April, 1967, with the technical assistance of an American expert employed by the World Rehabilitation Fund.

The first six months were for the training of a number of instructors. The first blind rehabilitation class started at the end of 1967.

The blind rehabilitation program includes three phases:

Phase I – From four to five months are needed to teach the blind trainee to adjust to his blindness. He will learn basic skills and techniques in activities of daily living such as eating, personal hygiene, money identification, etc. Indoor and outdoor orientation and mobility, as well as cane techniques, are taught so that the blind trainee can travel independently, efficiently and safely. He also learns how to read and write both braille and regular typewriters.

Psychological testing and ability assessment and evaluation are introduced to prepare the blind trainee to Phase II.

Phase II is the vocational training phase. Dependent upon individual ability, skills and educational background the blind can be trained in various vocational areas. But, because of limited facilities and training specialists, we have centered our efforts on telephone switchboard operation, morse code operation, English interpreting, x-ray darkroom techniques, bakery and some manual assembly work in industrial and commercial enterprises.

Phase III is the selective job placement and follow-up.

Program staff members are responsible for contacting governmental and private enterprises for job opportunities, job study, job evaluation and for investigating working methods which are adaptable to abilities and skills of the blind trainee and then seek his employment.

When the application is accepted, usually after many difficulties, the program instructor goes with the blind graduate to the job site to give orientation and guidance concerning the job itself as well as the new environment of the blind worker.

This phase also includes post-placement follow-up to help the blind worker overcoming difficulties, if any, and/or improve his working methods.

The results we have obtained in the past two years are worthy of note. Although many difficulties have been encountered due to financial and personnel problems and the influences of political and military events, we have completed five classes which included 75 blinded veterans and civilians.

We have already trained and placed in jobs 60% of the graduates:

- 8 telephone switchboard operators
- 4 morse code operators
- 5 bakers
- 1 braille instructor
- 1 librarian
- 22 x-ray darkroom technicians
- 6 English interpreters

In view of the boradening of the vocational training program – IBM punch card operation, teletype operation and clerk typists are under study and assessment.

It is believed that, with adequate facilities and specialists as instructors, we will be able to teach the blind brush making, basket making, brick making, etc.

With our present successes, we want to see this program expanded to help a maximum number of blind citizens. The NRI has three branch centers at Cantho, Quinhon and DaNang and sites for blind rehabilitation schools have been planned for in these centers.

In June, 1969, USAID, through the World Rehabilitation Fund, approved a fund of $192,327 for the construction of two Blind Rehabilitation Schools at DaNang and Cantho if our government agrees to pay half of the construction cost, which is 12,000,000 piastres.

The total cost would be:

(192,327 dollars) 22,700,000P + 12,000,000P = 34,700,000P

Unfortunately, with the new austerity policy, this 12,000,000 piastres has not yet been approved.

Again, with higher taxes, the cost would go up 60%; with these facts in mind, we would like to propose the following scheme for blind rehabilitation:

Blind Rehabilitation is, above all, a medical problem. Therefore, it is suggested that the Ministry of Health (MOH) would be in charge of conducting, coordinating, and operating the program. The Ministry should try to have statistical figures of blind people in hospitals, at homes and at the rest houses in the country. Annual rate of blindness should be estimated so that program planning could be developed. It is also suggested that a “Prevention of Blindness” campaign be promoted.

Next, blind rehabilitation being a social problem, the Ministry of Social Welfare should support the program by providing social workers, establishing rest homes for the geriatric blind and for those who are beyond rehabilitation training.

The Ministry of Labor should assist in providing vocational training specialists, in giving advice and in support to the vocational training program and the selective job placement program.

The Ministry of War Veterans and the NRI, with its present facilities and experience, should share the task by training instructors, expanding the program, constructing blind centers at the Saigon Institute and at the three sister branches. The four centers should be the foundation for the services for the blind which, in the future, should be expanded to provincial level if necessary.

In the event that the above suggestions are approved the following means are needed:

1. Construction.

Saigon center		28,000,000P
DaNang center		28,000,000P
Cantho center		28,000,000P
Quinhon center		28,000,000P
	Total	112,000,000P

Each center will serve 100 trainees a year.

2. Staff personnel (for each center).

1	Chief of Center
18	Instructors (including five nurses and five vocational training instructors)
2	Social workers
3	Office clerks
4	Laborers
28	Persons x 4 centers = 112.

3. Operational expenditures in one year for four centers.

– Salary (Staff):
3,216,000 x 4 = 12,864,000P
– Food, lodging facilities for 40 patients:
70 x 30 x 12 x 4 = 10,080,000P
10 x 30 x 12 x 4 = 1,440,000P
11,520,000P

– Office equipment 4,436,000P

Total 29,920,000

Within the framework of our national budget capacity, this program can be started at one center and then expanded to the other centers.

Gentlemen,

With the austerity measure of the government, when looking at the listed expenditures, it seems to be prohibitively costly. But if one realizes that rehabilitation of the blind, in particular, is not only an humanitarian task, but also an economic necessity for our country after 20 years of war, one should remember that rehabilitation can transform those who otherwise would need government and society's assistance for their lifetime, into productive and useful citizens. Then, the expenditures will not be a waste but a gainful investment for our economy.

With these facts in mind, I would like to extend my heartfelt thanks to you all for giving me the privilege of presenting the National Rehabilitation Program for the Blind.

THE FIRST 15 YEARS AT HINES

By John D. Malamazian

Editor's Note:

Previous issues of the annual, **BLINDNESS**, have treated the program for blinded veterans at Hines Hospital as a dynamic therapeutic environment (Williams in 1965), and an experiment in bureaucratic innovation (Bledsoe, 1969).

A very important aspect of it, not yet focused upon, is the program as an isolated culture for a special kind of orientation and mobility of the blind in the 1950's. The author, one of the pioneer mobility instructors, who is now Chief of the Hines Center for blinded veterans, was asked to cover this subject.

Although education for the blind in the United States was started in 1829, the teaching of orientation and mobility by professionally trained teachers on a formalized basis, using a cane, is a relatively new concept in the education and rehabilitation of the blind.

We know that, from biblical times, some blind persons used sticks, staffs, canes or dogs to move from place to place. We also know that the Dog Guide Movement was started in Germany by Dr. Geheimer Stalling after World War I and, in the United States, by Dorothy Eustis, Willi Ebeling and Morris Frank in 1929 when Seeing Eye, Inc., was established in Nashville, Tennessee; it later moved to its present site in Morristown, New Jersey. The dog guides have continuously fulfilled the mobility needs of a small percentage of the blind. However, because of age, visual and physical conditions, personality and individual differences of blind persons, the dog guides alone are not the answer to the mobility needs of the majority of the blind.

We also know that the White Cane Movement, started by the Peoria, Illinois Lion's Club as a public service, in most cases, merely served to provide the blind with a means of identification. It is also well documented in many articles that many blind persons and their families rejected the use of the cane because it allegedly was a symbol of dependence and made the blind person more conspicuous.

History tells us that many of the schools and agencies believed that if mobility was to be taught at all, it should be taught by visually impaired or blind persons, since they knew better than the sighted the needs of a blind person and had undergone the experiences personally. In many instances, if a blind person was not available to teach mobility, any person who had the desire, time and could be spared from his job, would be assigned or would volunteer to teach mobility. This does not mean that some of these individuals did not do a good job despite their limited qualifications and inadequate canes. Because of the efforts of some of these individuals and the limited amount of congestion and traffic, a small percentage of blind persons became safe, efficient and independent travelers. However, on the whole, most blind persons were unable to travel independently with a cane and used a sighted guide to go wherever they were going.

Although many persons will disagree with the above statements, evidence and history support the statement that prior to the 1940's very little was done by most blind persons or agencies and schools to develop good, safe, efficient mobility skills to enable a person to travel independently wherever he desired to go.

It wasn't until World War II when blinded military men began returning from the war that formalized mobility training, employing the use of the cane, was born. Most of the military men did not have any prejudices against the use of a cane or preconceived concepts about mobility but were anxious to learn and use whatever they could to become as independent as possible before going back to their families and communities. In fact, in many instances they demanded that they receive training as soon as possible.

In 1943 the Army designated Valley Forge Army Hospital as a special center for the treatment of all soldiers who had suffered eye injuries, visual impairment or blindness. First Lieutenant Richard Hoover (now Dr. Hoover) and S/Sergeant Warren Bledsoe were assigned to the staff at Valley Forge Hospital. Both of these men had worked at the Maryland School for the Blind and were knowledgeable in methods used to educate the blind. Both were young, progressive, and knew what most of the major shortcomings in the education and rehabilitation of the blind were. Both men knew that most blind persons were very poor travelers and had the courage and sincerity of purpose to express their feelings and opinions freely.

Lt. Hoover was appointed director of physical conditioning, orientation and recreation. With the large number of blinded casualties brought together for treatment at Valley Forge, it was an ideal situation and a necessity to experiment with new ideas and techniques in the rehabilitation of the blind.

Hoover had some ideas about the cane and its use from his past experiences as a physical education teacher at the Maryland School for the Blind. This was the most opportune time and place to test these new ideas. He lengthened the white wooden cane to 45 inches and devised a technique for using it which would provide maximum safety, ease, and even grace while traveling. The cane, though made of light wood, was heavy and cumbersome. This deficiency, combined with the frequent lack of an adequate supply of these canes during the war, caused Hoover to experiment with the possibility of using a light, durable metal tubing for the canes.

The cane that was subsequently developed and used at Valley Forge was the prototype of the special long cane used today in standard orientation and mobility training programs. It was approximately 46 inches long, weighed 8 ounces, and had a shaft one-half inch in diameter. The crook of the cane was "egg-like" in shape, similar to the crook of the shepherd's staff.

The success of the Valley Forge Program, and especially the Hoover cane and technique, had a tremendous effect on many individuals and a few schools and agencies serving the blind. However, although Hoover had discovered a new tool and method, taught the method successfully and taught others how to teach it, its acceptance by many was still slow. Despite the lack of interest, the Valley Forge program was the embryo from which grew the movement to professionalize the field of orientation and mobility instruction and formalized mobility programs for blind children and adults.

After the Army terminated its programs for the blind, a Presidential Order of May 28, 1947, transferred the responsibility for social adjustment training of blinded veterans from the Army to the Veterans Administration. The Veterans Administration Hospital at Hines, Illinois, was chosen for the site of the Central Blind Rehabilitation Center because a large and effective physical medicine and rehabilitation service was functioning there. On February 20, 1948, Russell C. Williams, a blinded veteran who had received his blind rehabilitation training at Valley Forge and Avon Old Farms and later had served as a counselor for other blinded veterans at Valley Forge was appointed Chief of the Blind Rehabilitation Center. At the same time Warren Bledsoe, Dr. Richard Hoover, Miss Kay Gruber and Harry Sparr were appointed as Central Office consultants to assist Williams, Dr. Kelso Carrol, the director of the hospital, and Dr. Louis B. Newman, Chief, Physical Medicine and Rehabilitation Service, in setting up the new program.

Staffing the center was one of the major problems which faced Williams. Despite the negative attitude toward mobility common to most blind people and workers for the blind at the time, Bledsoe and Williams had decided that mobility training would be the foundation of the program. Therefore, the major question was – who would teach orientation and mobility? Most of the men who taught mobility at Valley Forge returned to their civilian occupations after discharge from the service, and the few who remained in education or rehabilitation of the blind were employed elsewhere. There were no schools or agencies training instructors, so no qualified personnel were available.

Corrective therapy, a new specialty in physical medicine and rehabilitation, looked upon the job as something that belonged within their program. However, Williams and Bledsoe strongly believed then, as now, that teaching orientation and mobility is a full-time job that must be done by well-trained specialists. Dr. Newman, Chief, Physical Medicine and Rehabilitation Service, Williams and Bledsoe then agreed that the blind center should have a staff of its own, specially trained therapists to assume 24-hour-a-day overall responsibility for the treatment of blinded patients, as well as the application of techniques special to the blind.

After meeting Carl Purcell, Chief, Corrective Therapy, and some of the corrective therapists, Williams decided that their education and experience in physical education, kinesiology, anatomy, psychology, remedial exercises, posture and gait, and knowledge of the handicapped provided a good foundation upon which to superimpose the philosophy and special orientation and mobility skills needed to teach mobility.

Almost all the corrective therapists were content with their jobs and dedicated to their Chief, Carl Purcell, who was extremely well liked and respected by his men. Many of the men had served with Purcell in the Army Rehabilitation Program in England before joining him in the Veterans Administration. As a result of this close relationship and their interest in corrective therapy, many of the men were reluctant to leave Purcell and the jobs they knew so well for a new, unknown type of work. However, Purcell had developed much respect and admiration for Williams and pledged his support for the blind center.

Purcell did not resent Williams' decision to recruit men from his staff. In fact, he was instrumental in convincing some of the reluctant candidates by assuring them that they could return to their jobs in corrective therapy in the event they were dissatisfied with the work in the blind center. Incidentally, only one man of 23 corrective therapists employed as orientation and mobility instructors from 1948 to 1963 returned to corrective therapy, and he went to another state for personal reasons.

At the time, the men at Valley Forge who had taught orientation and mobility were called *orientators* or *orientors*, and the few others who were working in schools and agencies were called *foot travel instructors*. For the lack of a better name, it was decided to call these men *orientors*, as they were called at Valley Forge. Over the years, various individuals and groups have attempted to give this profession a standard name without any success. At one time, some individuals thought *typhlologist** would be a good name, but it was felt that this term was too general. Later the term *orientation and mobility instructor* was used and this eventually became *orientation and mobility specialist.* In 1960, the term *peripatologist* was introduced at Boston College by Father Carroll.

After the position descriptions and qualification standards were written and published, the selection of staff was begun.

Twelve corrective therapists applied for the first five orientation positions. Their primary duties were to be teaching orientation and mobility, daily living skills, physical conditioning and supervision of the blind center during evenings, nights, weekends and holidays. All or nearly all had degrees from midwestern colleges in physical education and some had as much as four years' experience working with the handicapped. Though none of them had any special experience with the blind, they did have the stability, personality traits, educational and work experience background thought necessary and desirable for this type of position.

In "Therapy for Newly Blinded Veterans," Williams states: "In view of the recognition that the environmental therapy is of a personal character, the selection of original staff members was based on personal interviews as a regular formal proceeding of the Civil Service examination.

"Much attention was given to the applicant's understanding and his feelings toward the objectives of previous employment. His attitudes toward seriously disabling conditions were explored along with any available indications of the stability of his disposition. His motives in pursuing the vocation of rehabilitation were reviewed as well as long-range ambitions in that field. All evidence of cooperativeness with, and respect for, fellow workers in the past was sought and weighed. It was presumed that sincere, healthy minded, emotionally balanced persons, with varied interests, sufficient security to respect their fellow workmen and the patients with whom they would come in contact would make the most valued contributions to a program of this kind."

Bledsoe, in "From Valley Forge to Hines" describes the screening process as follows: "We examined each for at least four hours. I would give a simple mobility lesson and then ask for it to be given back to me. Miss Gruber, who was interested in non-directive counseling at the time, would listen pleasantly for an hour, when there was a pause, giving what we called the 'Oh? Stuff.' This was simply an 'Oh' with an inflection which carried both a questioning tone and slight exclamation, after which the interlocutor usually felt impelled to say more. At that time it worked very well as a mechanism to elicit information. Our third interviewer, Stafford (called 'Charlie') Chiles, had an opposite method. He talked at the interviewee until he felt impelled to say something startling, and would often blurt out what we needed to know. Mr. Williams, smooth and kind, then went for a long walk with the interviewee, giving pointers on guiding and finding out how readily they were taken up.

"These procedures were accompanied by many, many hours of conversation about what kind of people we wanted, and how close the men we interviewed were meeting our requirements. There is no doubt about it – a high level of gossip is a very important adjunct to that element of bureaucracy which is known as personnel."

**Typhlology* is the science that deals with blindness.

After several weeks of interviews and screening, Joseph Ramanko, Edward Mees, Edward Thuis, Alford Dee Corbett and Stanley Suterko were selected to become the first orientors in the Veterans Administration.

A course of training for the staff personnel was conducted daily for four months before the first patient was admitted. Williams and Bledsoe conducted most of the training. However, Miss Gruber, Sparr and Dr. Hoover also assisted when their own busy schedules enabled them to come to Hines. The program consisted of learning the Hoover technique, orientation and mobility skills, and daily living skills under a blindfold. There was also reading and discussion of subject material about the blind and listening to lectures about the blind by Williams, Bledsoe, Harry Sparr, Miss Gruber and Dr. Hoover.

The student instructors performed their tasks under the blindfold diligently and sincerely. There were numerous occasions during mobility lessons when they became disoriented and walked into the streets. One man walked into an open garage and was unable to get out without assistance. Another crossed parallel streets at driveways without realizing it and continued in the same direction only on the wrong side of the street; others walked off curbs, made poor street crossings, etc. Performing daily living skills under the blindfold was frustrating but good teaching experience. The men frequently were anxious and occasionally panicked when they were confused and lost but did not remove their blindfolds. Instead, they shouted for assistance. As they learned the orientation and mobility skills, acquired experience in their proper use and learned to appreciate and utilize their remaining senses, they learned to remain calm, how to prevent certain errors or reorient themselves to their position in the environment. Each experience taught them better to appreciate and use their newly acquired skills and command of their remaining senses to select and interpret environmental clues as orientation and mobility aids.

Lesson plans (a catalog of mobility experiences) were prepared for use in teaching the blinded veterans orientation and mobility techniques and skills to be used in their travel training. The orientors trained each other over these routes and in different situations. The lessons or experiences were planned on the principles that first the lessons would start indoors, then move outdoors and become progressively more difficult; second, that they would become further refined as long as the program was in operation.

By the time the first patient arrived on July 6, 1948, all the orientors had completed all their indoor-outdoor hospital grounds, residential and business area orientation and mobility training and had acquired enough experience to believe that the techniques were valid and would, if used properly, enable a blind person to travel safely, efficiently and independently in almost any type of environment.

In the meantime, the example of Williams in his words and actions had created a very positive image toward the blind and the blind center program, not only in the blind center staff but in the entire hospital. Everyone with whom he came in contact developed a tremendous respect and admiration for him as an outstanding, intelligent, competent administrator and teacher. He immediately created a very positive environment in which to conduct a blind rehabilitation training program. At the same time, the months of daily contact with Williams, Bledsoe, Chiles and the inspirational and encouraging messages delivered by Miss Gruber on her periodic visits developed in the staff a very favorable attitude toward their new role in the field of rehabilitation. Williams and Bledsoe had prepared them psychologically and trained them technically as thoroughly as a coach trains a team for a big game or an Army officer trains a battalion for a big battle. Although the staff was anxious, they were also confident and becoming impatient waiting for the arrival of the first blinded veteran, so they could confirm their own conclusions and convictions that they could teach most blind persons to travel safely, efficiently and independently.

Despite this confident attitude, all were aware that they still had much to learn. With this in mind, the orientors continued their own training, even after the blinded veterans arrived. As the blinded veterans started to undergo their training, the orientors noted the need for refining and changing certain aspects of the Hoover cane, the techniques for using it and also the learning experiences. The instructors were already dedicated to furthering their new specialty. Frequently, when problems arose they put the blindfold on to work out the problems.

Then, as now, the whole program was based on a success pattern concept. Orientation and mobility was and is always taught on a one-to-one basis. Each individual receives two 50-minute periods of orientation and mobility instruction each day, five days a week. Every effort is made to establish standards of performance based on his abilities, limitations and potential. Each man's progress is dictated by his individual ability, not a timetable set for all persons. His progress should be fast enough to keep his interest going and slow enough for him to assimilate what he is taught. His progression to more demanding and complex environments is guided by his mastering and understanding of orientation and mobility skills acquired in somewhat simpler environments.

Williams, Bledsoe and the consultants established certain policies to assure that blinded veterans would receive the best training possible without any exploitations.

The program would be funded entirely by the VA; no donations would be solicited or accepted; there would be no publicity about the program outside the Veterans Administration and only official visitors would be allowed to observe the program. These policies were established to prevent interruptions in the program and distractions to the patients and staff from the task at hand. (I believe it was a part of the plan also to safeguard the staff from exposure to undesirable influences of less progressive and biased individuals before the staff was ready for this exposure.) The Veterans Administration, Williams, Bledsoe and other staff members made no effort to influence any other agencies or schools to teach the Hoover technique. However, Bledsoe and Dr. Hoover did write several articles and presented talks describing the success of the Valley Forge program. The Veterans Administration, and especially Williams and Bledsoe, were depending upon the success of making blinded veterans safe, efficient and independent travelers to sell the program without a hard-sell policy. History now indicates that this theory was correct.

After a year or two, individuals and agencies involved in work for the blind did notice that most of the veterans trained at Hines were capable travelers and were functioning very efficiently, safely and independently in their own communities.

After the blinded veterans started arriving for their training and the program was well underway, Bledsoe felt his job of assisting Williams and the Hines personnel in establishing and training the staff was completed. He departed from Hines and submitted his resignation to the Veterans Administration. However, he retained his consultant's position and later, fortunately for all of us, he was appointed full-time Chief of Blind Rehabilitation at Central Office and guided the growth and expansion of the Hines program.

There is no doubt that Bledsoe was most instrumental in establishing the blind section at Hines Veterans Administration Hospital. His knowledge about the blind, history and development of educational and rehabilitation services for the blind, and his ability to write and persuade people and, most important, his insistence on the best qualified staff and highest standards and services for the blind were responsible for his tremendous success in establishing the Hines program. After Dick Hoover, Warren Bledsoe was one of the first mobility instructors and teachers of mobility instructors. He must be recognized as one of the men most responsible for the growth and development of formalized mobility training programs for the blind and the establishment of university programs for mobility specialists and peripatologists.

In 1949, Lawrence Blaha and I, who were also corrective therapists employed at Hines, were added to the orientation and mobility staff. We also underwent an intensive training program under the supervision of Williams and the other orientors, with occasional coaching from Miss Gruber, Dr. Hoover and Bledsoe.

By 1949, the Hines program was adequately fulfilling the needs of most blinded veterans with service-incurred blindness, who were able to live in their own communities. However, there was still another major problem. There were many blinded veterans hospitalized in psychiatric hospitals and domiciliaries* who were not psychologically or physically well enough to participate in the Hines program. Many of these men were vegetating, due to inactivity because of a lack of any type of orientation and mobility training or daily living skills to fulfill their limited needs. There was a definite need to provide a limited type of program for these men.

The best solution to this problem at that time was to select a corrective therapist who was already working in one of these situations, was knowledgeable in the care and treatment of these patients, and provide him with the special skills necessary to work with the blind. Since the staff at Hines now had the necessary knowledge, it was logical that they provide the training. So starting in March, 1949, Hines also became a training center for other Veterans Administration employees who were treating blinded patients with other disabilities in other Veterans Administration hospitals. A two-week program was developed with the emphasis on basic (pre-cane) orientation and mobility skills and daily living skills, which would enable these therapists to teach these things efficiently to their blind patients. A similar program is still offered at Hines to corrective therapists, occupational therapists, physical therapists, and nurses.

This two-week program is not designed to qualify any therapist as an orientor or mobility specialist. The program is primarily designed to acquaint the therapists with the basic orientation and mobility skills and techniques without a cane, daily living activities, some manual skills and written communication skills. The program consists of observation, practice under a blindfold, and teaching (using our staff members as blindfolded subjects). We do not teach the use of the cane or any advanced orientation and mobility skills in this course. However, we have the therapists observe blinded veterans who are learning basic and advanced orientation and mobility skills so they will know what an intensive blind rehabilitation program is and what a well-trained, competent blind person is capable of doing. This enables the therapist to evaluate more realistically the abilities and potential of his patient and treat him accordingly. It enables the therapists to determine whether their patient is physically and psychologically a good candidate for the more intensive training program at Hines. Since 1949, many persons have completed this introductory course at Hines and have established limited training programs in psychiatric hospitals and domiciliary centers. As a result of this introductory course, several of these therapists have gone on to one of the graduate programs and are now certified mobility specialists.

During the first few years, Williams and the staff at Hines were not only continuously evaluating and refining the orientation and mobility skills, the teaching methods and lesson plans, but were also educating the hospital personnel and residents in the nearby communities to the idea that blind persons could travel and work independently. On one occasion, one of the patients got lost in the vicinity of the hospital director's home, and the director's wife wanted him to lead the patient back to the blind center. However, the patient and the director agreed all he needed to know was where he was, after which he proceeded, asking the director not to tell Russ Williams. Once a patient stubbed a foot on a cement threshold in the blind center, bumped his head against the door jam and obtained a small cut over the eye. When the doctor was called to examine the cut and was told how it happened, he insisted that the engineering department remove the cement threshold. We objected, indicating that it was a natural part of the environment and expected blind persons to learn how to cope with these situations. The threshold is still in place.

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*Then called National Homes.

Another time, while crossing a street, a patient struck a bus with his cane. The only damage was to the patient's ego. Yet the bus driver insisted on filing an accident report. The patient and orientor had to debate with the driver for 15 minutes before the matter was forgotten. On numerous occasions, Williams received telephone calls from residents in nearby communities who wanted to report an orientor who was allegedly neglecting his patient. They indicated that the orientor allowed a blind patient to wander around in the street or in someone's driveway instead of assisting him. Many times orientors were verbally lambasted for not assisting a patient who apparently was disoriented or made a poor street crossing and was walking in the street. Once I was almost physically attacked by a huge truck driver because I ignored his command to assist a patient who was waiting at a curb to make a street crossing. When he parked his truck and started toward me with assault in his eyes, I hastened to meet him part way to explain my role to the patient. He reluctantly accepted my explanation, returned to his truck and proceeded on his way. Occasionally, a police officer also would stop an orientor to ask why he was following that blind person.

One emotional, unstable woman, who lived in a corner house where one of our lessons started and ended, objected to our using the sidewalks in front of her house because the sight of the blinded veterans upset her very much. She threatened to have us arrested, or to move, if necessary. Although we eventually changed the starting point, we refused to stop using the sidewalks since they were public property, so she did indeed sell her home and move.

Gradually most of the hospital personnel and residents of the nearby communities became aware of our work and did not interfere with the training. In most instances they hardly even noticed a patient any more unless he was confused or having problems.

By 1950 Himes had been in operation for two years and Russell Williams had succeeded in forming the nucleus of an excellent staff of blind rehabilitation specialists consisting of Stafford "Charlie" Chiles, Edward Mees, Edward "Bud" Thuis, Alford Dee Corbett, Stanley Suterko, Mrs. Genevieve Miller, Larry Blaha and myself. Eighty men had undergone training at Hines during this period of time and the program was recognized as one of the most beneficial and successful treatment programs in the Veterans Administration. It would be extravagant to say it enjoyed quite that reputation in other quarters. Very gradually, however, the successful rehabilitation of the majority of veterans completing the training program generated more and more interest in the teaching methods employed at Hines among other public and private agencies and schools for the blind.

The following comment by Chevigny and Braverman in Chapter 8, "The Adjustment of the Blind," May 1950, was one of the first references to the Hines program in print. It foretold an impression which was to spread.

"Those blinded as a result of war casualties may now enter a remarkable unit for their retraining at Hines Hospital, Hines, Illinois. It is under the Department of Medicine and Surgery of the United States Veterans Administration, and its active director is Russell C. Williams, himself a trainee who went through the hospital's courses during the war and through Avon. An 18-week course is given to a small group, seldom larger than ten men. The course is described as 'tough.' It concentrates on ability in independent travel. Unlike the procedure during the war, the work is given only on request of the individual. There is a stiff preliminary physical and psychiatric examination. We have not observed this institute ourselves, but competent observers believe that, unless pressure on the part of other organizations to take over its work is successful, from it may emerge the clearest view yet obtained of theory and practice."

This theory and practice were shortly to meet a crisis. In 1950 the start of hostilities in Korea resulted in newly blinded servicemen being sent to military hospitals. The Department of Defense, the Veterans Administration, and the Blinded Veterans Association were all concerned about who should assume the responsibility of caring for these newly blinded servicemen. A meeting of medical representatives of all branches of the service was held at Hines. After some deliberations, governed by the enormous prestige of Dr. Derrick Vail and with the support of the Blinded Veterans Association, the Department of Defense and the Veterans Administration agreed that because of the relatively small number of blind casualties, and because the Veterans Administration already had in operation an effective program at Hines, the best interests of the patients would be served by a unified program in the Veterans Administration.

In September 1950, Williams, Bledsoe and Miss Gruber met with Veterans Administration officials in Washington, D. C., to present plans to expand the Hines program from a 9-bed advanced unit to 3 units of 9 beds and a preliminary unit of 13 beds in the ophthalmology ward. The expansion plans included making available additional space and staff comparable to the original 9-bed unit and providing additional staff for the preliminary unit on the ophthalmology ward.

The preliminary unit would have its own staff with a supervisor who would be responsible to Mr. Williams and would provide instructions in orientation and mobility, braille, typing and occupational therapy on a limited basis, for those men who were receiving definitive medical care and were unable to participate in the regular advanced program. As soon as the definitive care was completed, the veteran would be transferred to the advanced unit.

It was agreed that the expansion of the facilities would take place as immediately as possible after the plans were approved and funds were provided. However, the increase in number of patients would take place only as staff became available, with no changes in the original staff-patient ratio or the basic principle of individualized instructions.

In January, 1951, the blind center had a staff of 10: 1 chief, 6 orientation and mobility therapists, 1 braille and written communications therapist, 1 manual skills therapist, and 1 secretary, to provide services for a maximum of 9 blinded veterans. It was agreed that each new unit of 9 patients would require 6 orientation and mobility therapists, 1 written communications, 1 braille and written communications and 1 manual skills therapist in order to maintain the same type of quality teaching standards and sound educational practices employed since 1948.

The first blinded servicemen of the Korean Conflict were admitted to the blind center in March 1951. At almost the same time, approval was received from Washington to increase the bed capacity gradually from 9 beds to 27 beds in the advanced unit, and 13 beds in the ophthalmology ward.

Williams once again turned to the Corrective Therapy Unit for his new orientors, as he had for his original staff, and to the Manual Arts Unit for his shop instructors. He employed almost the same screening method used in 1948, but now had the opportunity to solicit recommendations from his own staff as well, since they had worked as corrective therapists with the new candidates and knew many of them extremely well. The new men were selected not only on their professional qualifications and work experience, but also on their personal attributes and how well they would fit into the total rehabilitation team concept.

It would have been almost impossible for the staff to continue providing full-time comprehensive services to 27 blinded veterans and train a large number of new staff members at the same time. Hence the new staff members were employed and trained in small groups and the number of patients admitted was increased as the new staff members became qualified to teach, first under supervision and later without supervision.

1951 was a very significant year in the growth and development of the Hines program, and especially in the number of new orientors who had entered the profession. During that year, Hines employed and trained 15 orientors: Lee Farmer, Edward Polfus, Richard Russo, Richard Bugielski, Franklin Wood, Peter Gotfryd, James Enzinna, Cecil Miller, Raymond Brooks, Oscar Olivia, Norman Roche, Jack Henschen, Walter Olenek, Everett Bjork, and Lloyd Widerberg. All fifteen men were selected from within the Veterans Administration system; eleven were corrective therapists at Hines, three came from other nearby Veterans Administration hospitals, and one from the Veterans Administration Regional Office. Other therapists employed during this time were psychologist Don Blasch; for manual skills, John Thompson, Leo Krystof and John Hoiden; for braille skills, Mary Wyrick, Robert Ryan, Richard Brown, Ellen Van Vleit; for written communications, Madelon Hawkins and Zola Bond; and as secretary, Shirley Porter.

In less than a year, the Hines program grew from a 9-bed unit to a 27-bed unit and the number of orientors was increased from 6 to 20, while the total staff was increased from 10 to 32. All the orientors received the same type of intensive practical training under the blindfold, and theoretical training which the other orientors had received. It also has been a policy at Hines to teach all new staff members the pre-cane or basic skills under the blindfold, and have them observe the teaching of advanced mobility skills both indoors and outdoors so they will be able to reinforce the use of proper skills at all times in all classes or during leisure hour activities.

The addition of 15 new dedicated, sincere and eager orientors eventually led to further refinement of techniques and skills, revision of lesson plans and a general improvement of teaching methods as they acquired additional experiences and shared ideas. These 20 orientors worked together as a team, assisted each other, shared their successes and failures together, and constantly sought ways to improve their own skills and teaching techniques in order to provide a better program. Even after their prescribed training was completed, often when time permitted, the orientors continued their work under the blindfold with each other to test-run new lessons, try a new method or review certain skills and techniques. On many occasions, newer instructors solicited advice from other instructors to correct a troublesome problem one of their patients might have. One of the advantages of working at Hines has always been the availability of numerous other orientors to consult when a problem you can't cope with arises. The large mobility staff and the practice of periodically rotating orientors among patients keeps you from becoming lax about techniques and standards.

Initially the Hines program was very selective in screening their patients and very few multi-handicapped patients were referred or accepted. However, starting with the

Korean casualties in 1951, the number of multi-handicapped blinded veterans started to increase. By this time, many of the staff members had acquired the confidence and expertise to innovate, modify and cope with almost any kind of disability. The past experiences of the corrective therapists in working with orthopedic, neurological, psychiatric, spinal cord injury and medical patients proved to be extremely helpful. There was hardly a disability known that at least one or two of our staff members had not worked with. Combined with their knowledge about blindness, we were able in almost every case to modify techniques and innovate or fabricate aids and devices to fulfill the mobility and daily living needs of almost every patient. During 1951, 1952 and 1953, Hines started providing services for blinded bilateral hand amputees, unilateral arm amputees, unilateral leg amputees, neurologically impaired blinded patients, etc.

As indicated earlier, the Hines program was initially planned to serve only those veterans with service-incurred eye disabilities. On January 20, 1953, the regulation was changed so that those veterans whose blindness was non-service incurred also became eligible for training at Hines. However, these men were to have a low priority and were to be accepted only when there were vacancies which could not be filled by service-connected blinded veterans. This change in the regulations was a significant point in the history of Hines, since the number of potential candidates eligible for training increased sharply. Eventually, as a result of this decision, a large backlog of candidates was developed.

During 1953, the Veterans Administration produced the film, “The Long Cane,” primarily as an information and teaching film for professional workers in the Veterans Administration. This was necessary because blinded veterans were massively outnumbered. This is dramatically pointed up by the fact that the number of blinded veterans each year did not equal the number of veterans hospitals. In order to keep blinded veterans from being “lost,” tens of thousands of employees had to be made keenly aware that there was a central rehabilitation unit at Hines. All the actors in the film are either blinded veterans or Veterans Administration employees. Warren Bledsoe was the technical director and did a tremendous job, sometimes under much duress to keep the story legitimate without the Hollywood touch. It depicts the Hines program in detail, with emphasis on the mobility training program and the physical and emotional problems encountered by newly blinded veterans in learning orientation and mobility skills and techniques.

It was hoped that the film would be shown widely in the Veterans Administration hospitals and regional offices to inform personnel widely scattered and have only occasional dealings with blinded veterans what type of training the blinded veterans would receive at Hines. After seeing the film and reading the program guide, it was hoped that therapists, social workers, counselors, and especially hospital registrars would have a good knowledge of the Hines program. This knowledge would then enable them more realistically to evaluate the blinded veteran’s physical and psychological abilities to participate in the program. It was also hoped that the film would provide sufficient information to enable some therapists working in psychiatric and Veterans Administration domiciliaries with blinded patients who had limited needs and were not candidates for Hines, better to fulfill those needs. Perhaps also it would enable nurses, doctors, social workers, therapists, etc., to assist a newly blinded veteran in another hospital to care for his basic needs until he could be transferred to Hines for more intensive training.

Released in March 1954, the film far exceeded expectations. It has become a classic in work for the blind and an essential teaching aid in every orientation and mobility course being taught in the universities. It is used for in-service training workshops for teachers, house parents, parents, and is frequently used by medical schools, nursing schools, hospitals, parent-teacher associations, church groups, service organizations, etc. It enjoyed the honor of being shown at the Edinburgh Festival.

After 16 years, "The Long Cane" is not outdated with respect to orientation and mobility skills and techniques or the problems newly blinded veterans experience in mastering these skills. Some of the techniques and skills used have been changed or refined. Yet basically, it still shows good orientation and mobility techniques in a well-presented manner. We still believe, as the film shows, that a blind person *cannot* become a safe, efficient, and independent traveler by reading a manual, listening to a tape, or in a crash mobility course. It requires much motivation and hard work by the blind person, and good instruction by a well-trained, qualified mobility specialist.

In late 1952 and 1953 a system for reporting cases of newly blinded veterans to Veterans Administration Central Office in Washington, D. C. was established. Through followup by Central Office, inquiries were made to determine whether proper rehabilitation procedures were applied to assure the veteran of adjustment to his post-hospital environment.

During 1952, 1953 and 1954 a special study of the therapies applied to blinded veterans of World War II and the Korean Conflict was made as a joint undertaking by Veterans Administration Physical Medicine and Rehabilitation and Social Service staffs. This study was necessary because of the lack of authentic information concerning the effectiveness of long-term medical programs operated by the Federal Government for the treatment of blinded veterans. A joint undertaking, it was implemented by Irene Grant (now Mrs. Andrew Dalrymple) acting for Social Services and Warren Bledsoe acting for Physical Medicine and Rehabilitation. Miss Grant has not been previously mentioned in any part of the BLINDNESS ANNUAL coverage of blinded veterans. During the founding of the Hines unit, Social Servics, even at Central Office level, had played a relatively small role. Mis Grant, as Central Office Chief of Social Services, had been dealing with problems earth shaking to her program. She had been chief of Social Services before the Bradley-Hawley reorganization and stepped down to make room for Roger Cumming, a World War II veteran chief. To the credit of them both, they made the most of each other's talents. Also to their credit, they gave the same meticulous attention to the study of minority groups as they did to the problems of millions, as soon as the dust of reorganization had begun to settle. The followup study of blinded veterans is a case in point.

A letter of instruction drafted by Miss Grant mustered a unique spirit of cooperation in the social work profession which had not hesitated to say on previous occasions, "The blind are getting more than their share." Roger Cumming equaled Miss Grant's support by carrying forward the study as a regular operation when special funds to carry it out were cut from his budget during an economy drive. In six months, 386 social workers examined the case folders of 1,949 (98 percent) of the service-connected veterans blinded in World War II and the Korean Conflict. Each veteran was then interviewed, needs noted, action taken to rectify deficiencies, reports going to central office at every stage. The major purpose was to give services. However, a large amount of exact information was unearthed for use in determining the current and future needs of blinded veterans.

The results of the study were compiled and edited by Warren Bledsoe in a text entitled "War Blinded Veterans in a Post-War Setting," published by the Veterans Administration in 1958. Needless to say, it was an important factor in improving services to blinded veterans and also confirming that the majority of blinded veterans were making a good post-hospital adjustment.

One of the facts shown by the study was that few blinded veterans were without additional handicaps besides blindness. Since the Korean Conflict, the staff at Hines has successfully trained ten blinded bilateral hand amputees, numerous unilateral leg amputees, and unilateral arm amputees, and a few unilateral arm and leg amputees, bilateral below the knee amputees, and bilateral above the knee amputees. In addition to these men, many blinded veterans with neurological problems, brain syndrome, hearing impairments, and numerous other additional disabilities have been treated. In working with the multi-handicapped, the staff had to develop and fabricate many self-help adaptive devices, modify the traditional long cane, the usual techniques and skills, and provide special lesson plans in some instances to fulfill the individual needs of each multi-handicapped blinded veteran. As a result of working with these types of patients, Hines has developed an extensive number of self-help devices which are used only when absolutely necessary. Every effort is made to teach each veteran to perform as many skills as he can without aids or gadgets.

It would have been almost impossible to provide blind rehabilitation training to many of these multi-handicapped blinded veterans without the cooperation and excellent work of the many other medical and para-medical services at Hines. The ophthalmologists, otologists, restoration clinic staff, plastic surgeons, orthopedic technicians, physical and occupational therapists, social workers and others, all played important roles in the total rehabilitation treatment of these veterans. However, two persons not on our staff deserve special recognition for their excellent work with the multi-handicapped blinded veterans. Miss Marcy Shipton, an occupational therapist, was primarily responsible for teaching almost every blinded bilateral hand amputee how to independently perform their daily living needs using their Krukenberg and prosthetic hook. She worked diligently with each veteran to adapt methods best suited to himself.

Robert Curnock, an orthotist, worked very closely with Miss Shipton and our staff members to develop self-help adaptive devices for the many blinded multi-handicapped veterans. Mr. Curnock's occupational skills and ingenuity have contributed to the development of numerous self-help devices for individual needs of patients. He has developed devices which have enabled blinded bilateral hand amputees to perform all their daily living needs independently. Both Miss Shipton and Mr. Curnock were valuable resources to the blind center.

During the fifties Hines made several major improvements to the long cane. The wooden dowel tip was replaced by a more conductive and longer-lasting nylon tip, and the top portion of the cane was covered with a wrap-around golf grip to provide a better grasp, prevent slipping of the hand due to perspiration, and lessen the coldness of the cane in cold weather. The wrap-around grip was later replaced by the present slip-on reminder golf grip. The diameter and size of the cane crook was made smaller without affecting the balance of the cane or any of its other necessary features.

The patient load fluctuated up and down quite sharply, but there were very few changes in the staff after 1951. Three orientors were added to the staff to replace men who had resigned: Pete Wurzburger, 1953; James Lassen, 1956, and Robert Gockman, 1958.

At about this time, the Blinded Veterans Association employed several blinded veterans as field representatives to provide services to newly blinded veterans and to follow up on World War II veterans. This program was successful and beneficial to the blinded veterans. Many referrals were made to Hines by the Blinded Veterans Association field representatives. Unfortunately, due to lack of funds, the Blinded Veterans Association discontinued this service in 1961.

During the fifties, a demand for orientors and training programs for orientors began. Other agencies were attempting to recruit men from the Hines staff. However, since most of the Hines men were natives of that area and appeared content with their jobs, they remained at Hines. In fact, the unit had a unique record in the Veterans Administration with regard to holding staff. Finally, in 1958, Berdell Wurzberger was the first Hines orientor to leave the Veterans Administration. He accepted a job at the California Orientation Center, which at that time was located in Oakland. Wurzberger's move eventually had a tremendous effect on the development and growth of the orientation and mobility program in California. He became affectionately known as the Hines-West Coast representative. Richard Russo and James Lassen also moved to the California Orientation Center later.

Hines received many requests from private and public agencies to train orientors and provide literature and materials dealing with orientation and mobility techniques. We put a great deal of effort into our attempts to meet these requests. In all there were 176 "visitors" to Hines whom we attempted to teach. If this article does nothing else, it should record the thinking of the Hines staff about these experiments.

When asked why history should be studied, a sage somewhere replied with the questions, "Did you ever know a man who had lost his memory?" To this may be added the saying, "He who has not studied history is condemned to relive the past."

No one believes more firmly in the rigorous graduate course of training for orientation and mobility instructors than those of us who during the past two decades have put a good part of our working lives into experiments to produce the same results by measures short of such training.

It is crucial that program planners understand where those whose word they seem to take as gospel in this area agree we had some success and where we felt we were failing. There seems to be little question, and we do not doubt it ourselves, that in the 1950's the Hines staff were able to evolve and teach a workable system of orientation and mobility for veterans. We also managed to train our own instructors. However, it was with a hand-picked group, in a national program with the U. S. Budget behind it, which guaranteed a staffing complement which was ideal. Moreover, these resources were ours in part because we were in a time of unlimited national compassion and gratitude toward the trainees we served. Where we have a sense of failure was in our efforts to impart our methods to the 176 "visitors" from agencies for the blind outside the Veterans Administration. These we tried to make orientation and mobility instructors on a short-term basis. They included many, many types of personnel in work for the blind, with whom we put in thousands of hours. The yield was far more than we deserved in credit from the field of work for the blind, but the net result on the part of those best able to evaluate the results did not satisfy anyone really aware of the possibilities of blind people in the way of orientation and mobility. The same may be said of a number of short-term courses for groups of workers for the blind whom we tried to train in various parts of the country under the sponsorship of several agencies. In most cases, all we imparted was a hearty respect for street crossings, a frustrating respect for ourselves and a desire on the part of the would-be instructor either to have a lot more training or have nothing to do with it himself because he thought there was too much risk. It was this which led to the establishment of the graduate programs. Our experience can be measured in quite a few man and institution years and dollars. Those who find us reluctant to try the experiment over again should understand the reluctance in the light of these facts.

By 1958, Williams was certain of the need to establish training programs for orientation and mobility instructors. The Veterans Administration was unable to provide the thorough type of training given its orientors to personnel from other agencies. It was obvious this training should be given at a university.

Father Thomas J. Carroll (now Executive Director, Catholic Guild for All The Blind, Newton, Mass.) was pressing for such a program and Miss Gruber, Warren Bledsoe, and Williams all agreed there was a need for it. At this juncture, some major personnel changes, which were at first disturbing to the program we had built, were to result in programs to carry the system we had developed far and wide outside Hines Hospital. Bledsoe and Miss Gruber had continued to play prominent roles as consultants and liaison for the blind center with the Department of Defense, Hines, and Central Office. Each visited Hines periodically and continued to provide strong support to the staff as well as the administration.

However, in 1958, Bledsoe transferred from the Veterans Administration to his present position as a Special Consultant, Division for the Blind, Social and Rehabilitation Service, Health, Education and Welfare, and terminated his official relationship with Hines. This put him in touch with officials of that agency who were in command of newly acquired appropriations for research, demonstration and training projects in civilian rehabilitation agencies. At the same time, Williams was temporarily assigned the additional responsibility of Chief, Blind Rehabilitation, Veterans Administration Central Office, and periodically commuted between Central Office and Hines. In May 1959, he was appointed Chief, Blind Rehabilitation, Veterans Administration Central Office, and was transferred to Washington. Thus he also came to the attention of Miss Mary Switzer, Louis Rives and other Vocational Rehabilitation officials as he represented the Veterans Administration in Washington, and – as a result of this – some of the people in official life for the first time accepted the fact that something worthwhile was going on at Hines. Nevertheless, he was a tremendous loss to the blind center, as no one could have the insight, knowledge, understanding, and the ability to influence the blinded veteran and the staff as personally and positively as Williams. He exemplified a symbol of leadership and success that no other person could imitate. Anyone who played a part in the Hines program felt that only Williams had the ability to select, train, and indoctrinate a staff that could work together so successfully as a team. His direct contact, first as a part-time braille teacher and later as a counselor, advisor and administrator to the blinded veterans, had a tremendous influence on the blinded veterans. Through his efficiency and skill, he commanded the respect and admiration of everyone with whom he came in contact.

Consequently, Williams' transfer to Central Office was greeted with mixed feelings by the entire staff. He had played a very active role in the Blind Center as both an administrator and counselor. He maintained almost daily contact with each patient and personally knew each one as well or better than many of the therapists. He was directly involved in the daily treatments program which was a tremendous asset to both the blinded veterans and the staff. He disliked giving up this direct daily contact with the patients and staff for an almost exclusively administrative role with very little, if any direct contact with blinded veterans and blind rehabilitation specialists.

Nevertheless, Williams would now be in a position to serve all blinded veterans better rather than the few who came through Hines. Although the staff at Hines disliked seeing him transferred to Washington, it was reassuring to know that someone who knew the Hines program better than anyone else would be representing the blinded veterans and us in Washington. We knew that Williams would not only maintain the excellent program and high standards which he and Bledsoe had initiated and implemented, but that he would seek to expand and further improve the services offered to all blinded veterans. We did not realize that he would unconsciously advertise what we were doing to program planners outside the Veterans Administration.

At this time, the Veterans Administration and the staff still felt the Chief of the Blind Center should be a well qualified, competent blinded person who had demonstrated an effective integration of his own blindness. The entire staff agreed that there were many advantages in having such a blinded veteran who has experienced and integrated blindness as the one who imposes the conditions of the program. The newly blinded veterans undergoing training often formed close associations with Williams and were motivated by his example. He related better to many men than any of the staff members because he was accepted as a peer. Something he wrote about these years sheds light on how and why this occurred. ". . .the program is small enough so that each veteran leaves his mark and is remembered in ways different from the others. Nearly all, if not all, of the veterans impressed themselves indelibly on my memory in ways that are most satisfying.

"When I visited Hines a short time ago, there were 26 veterans there for rehabilitation for severe visual impairment and blindness. They were in their teens and in their sixties, and, as always, the ages in between were well represented. As I thought about these veterans and their futures, my memory took me back to the first one who came to the Hines program and to many others who have been there since. As I thought about the struggles and successes of the veterans of the past years and how their personalities blossomed and bloomed right there in the program, I felt assured that the 26 recent ones were on the right track. These veterans and the ones with whom they would later associate would be better off because of Hines, and Hines would be better off for having had them.

"Credit for the skills and influences represented in the program belong to many and expressions of gratitude should be extended to all of them. Far back in the past a great many blind people and workers for the blind developed ways to improve living for people whose sight was reduced or absent. They left us with irrefutable impressions that respectable lives can be enjoyed by blind people. We also accumulated from them information about rehabilitation methods and objectives. The Hines staff learned the techniques of the past, added knowledge from the present, and then found these ideas confirmed in their day-to-day, year-to-year relationships with blinded veterans. . ."

Don Blasch, who had been the counseling psychologist since 1951, was appointed interim or acting chief in June 1959. Blasch did an outstanding job of operating the center and continuing in his role as counselor until February 1960, when Loyal (Gene) Apple, a blinded veteran who had received his training at Hines in 1955 was appointed permanent chief. After leaving Hines as a patient, Apple was employed by the Blinded Veterans Association first as a field representative and later as their Executive Director.

Apple assumed a very difficult position in succeeding Williams as Chief. He was much younger and less experienced than the entire staff. Most of the staff he was now supervising had been his instructors when he was a patient. However, the entire staff had much respect for him as a person and for the abilities he had demonstrated in his previous jobs with the Blinded Veterans Association. He had made an excellent adjustment to his own blindness and was a very capable, independent person. We all felt he was an excellent example for our newly blinded veterans. With the assistance of the entire staff, but especially Mrs. Genevieve Miller, the Administrative Assistant Chief, Apple acquired the Veterans Administration administrative knowledge and soon began to establish a reputation as a very capable leader. In performing his duties as chief, Apple frequently came in contact with many persons in other divisions and services within the hospital. Like Williams, he too acquired the admiration and respect of everyone with whom he came in contact. Five years later he was recognized for his excellent work and leadership ability by being selected as the Outstanding Supervisory Employee for the Chicago District Civil Service Employees.

Most of the events that happened the next year and a half had already been initiated by Williams in 1958 and 1959 and were continued by Blasch and Apple.

A landmark event in the story of Hines was the establishment of graduate training program for orientors. In June 1959, Father Carroll persuaded Louis Rives, who was then Chief of Services for the Blind in what was then the Office of Vocational Rehabilitation (now RSA) to promote a National Conference in New York under the sponsorship of the American Foundation for the Blind. One of the results of this was a liberal grant from Office of Vocational Rehabilitation to start the Peripatology Program at Boston College in June 1960. At about the same time, Williams, Apple, Blasch and Dr. W. Liberson, Chief of Physical Medicine and Rehabilitation, started negotiations with Western Michigan University, Kalamazoo, Michigan, for a training program at that institution with which Hines Hospital already had an affiliation in their Occupational Therapy School. There were a number of problems within the Veterans Administration and at Western Michigan University during the development of this program. After some delay, the problems were resolved by the determination of Dean George Mallinson, one of the most important "status people" ever recruited to work for the blind by the Hines program.

When the program was written up and all ready to proceed, the problem of selecting someone to direct it on the campus arose. Western Michigan had no program in the area of the blind and no one on the staff who was knowledgeable in orientation and mobility to direct the program.

The final result was that Blasch was selected. Initially, he did not seek the job. It is not an understatement to add that at no time during the preliminary discussions did Apple or Blasch himself think that he would go to Western Michigan. Many persons felt that Blasch had the best qualifications and ability to make the program a success and encouraged him to accept the position. Moreover, the determination of Dean Mallinson once again prevailed. After Blasch accepted the position, he immediately recruited Stanley Suterko and Larry Blaha, who were considered to be the two most knowledgeable orientors in the world. Suterko had been the orientation and mobility supervisor at Hines since the expansion in 1951 and Blaha was one of the assistant supervisors. Both men had broadened their knowledge and skills in teaching orientation and mobility by conducting summer workshops for teachers at various universities and teaching congenitally blind children at these workshops and in the Chicago Catholic School program. At that time they were two of only a few Hines men who had acquired experience in teaching children.

Blasch resigned and left Hines in June 1961, to assume his position at Western Michigan University. Suterko and Blaha resigned in August 1961. The Western Michigan program started in September 1961 with four students. In retrospect, it is interesting to note that all three of these men had a difficult time deciding whether or not to leave Hines. There was a question of the probable longevity of the graduate programs. The original grant was for five years and many of us thought that between the Boston College and Western Michigan University programs, the need for orientors around the country might be filled in three years or five at the most. Little did we realize at that time that 10 years later, with 4 additional graduate schools and 1 undergraduate program, there still would be a shortage of qualified mobility instructors and peripatologists.

The importance of the Hines program is illustrated by the fact that both Boston College and Western Michigan University required all their students be exposed to the Hines philosophy and program. Starting with the first Boston College class, every class has spent one week at Hines observing the Hines staff teaching orientation and mobility. Western Michigan has been sending 3 to 5 students each semester to Hines for their 15 weeks' clinical training or practice teaching experience. Since the beginning of a program at San Francisco State in 1966, they also send their mobility students to Hines for one day to observe the orientation and mobility program.

These were critical years for the Hines program. In a short span of time, we lost four outstanding members of our staff: Williams, Blasch, Suterko and Blaha. However, the dedicated people whom Williams had recruited and developed had the knowledge, ability, confidence and unprecedented esprit de corps to carry on and maintain the high standards of the Hines program.

During 1957 through 1961 the number of applicants for training had decreased sharply. We were operating at 20-bed capacity and were averaging 17 patients in the program all the time. The work of the Blinded Veterans Association field representatives, whose numbers were rapidly shrinking, often determined whether our applications increased or fell off as they moved from one territory to another.

In October 1957, Dorothy Spence Koch replaced Fran Weiss as secretary. Robert Ryan and Ellen Van Vleit of the braille and written communications sections resigned in 1960 after 9 years of dedicated service. Ryan went to the University of Illinois and obtained a doctorate in psychology, and Miss Van Vleit joined the public school system as a resource room teacher. Neither one was replaced immediately because of the decreased patient load.

In late 1961 and 1962 we began again to see an increase in the number of applicants and a change in the type of patients we were receiving. Instead of providing training for a large number of young, traumatically blinded veterans, we began receiving an increasing number of applications from middle-aged and older World War I and World War II blinded diabetic patients.

As a result of the change in the type of blinded veterans now being trained at Hines, the orientors were required to add two additional sets of lesson plans or travel experiences to provide a more individualized type of program. One set of experiences was developed for men who were considered to be physically limited or slow learners, and another set was developed for men who had some useful travel vision. Each orientor, after evaluating his patient, then had a choice of three different sets of mobility programs or a combination of all three programs to prescribe for his patient. Even with all these planned experiences, in many instances it was necessary further to modify or revise existing validated techniques, experiences and teaching methods.

As a result of the increase in applications, Harvey Lauer was employed as a braille teacher in March 1961. Clovis Semmes, another corrective therapist at Hines, was employed and trained as an orientor in September 1961. Robert Smith, who had been a manual skills instructor in the blind center since 1952 transferred to the mobility staff and was trained as an orientor in May 1962. He was replaced at that time in the manual skills section by Leland Puttcamp, who had been a manual arts therapist for many years at another Veterans Administration hospital.

In June 1962, Rod Kossick,* William Walkowiak and Robert Lessne were accepted as the first orientation and mobility students from Western Michigan University to obtain their 15-week clinical training experiences at Hines. After completing his clinical training in September 1962, William Walkowiak became the first graduate mobility specialist to be

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*Activator of center in Viet Nam mentioned in this issue of *Blindness*.

employed at Hines. He replaced Robert Gockman who left Hines in August 1962 to teach orientation and mobility to blind children in the Chicago Catholic School program. At the same time, Dr. Norman Kerr was employed as the staff psychologist.

By August 1962, it was again necessary to increase the bed capacity of the center to 24 due to the large influx of blinded diabetics and other newly located cases of blindness.

In 1963, Walter Pociask, another former corrective therapist, became the last Hines trained orientor to join our staff. He replaced Richard Russo, who earlier that year had accepted a position with the California Orientation Center in Oakland.

From February 1948 until September 1963, 28 men were employed and trained as orientators for the Hines staff; 15 of those men are still there. Four are teaching at universities offering a graduate degree in orientation and mobility. Two are teaching orientation and mobility at a state agency. One is a corrective therapist in another Veterans Administration hospital and occasionally teaches blinded veterans. Four have left the field entirely and two are deceased. Despite the success of the Hines program in training its own staff – since the Boston College and Western Michigan University programs were now well established and graduating qualified peripatologists and mobility specialists – it was no longer necessary for Hines to train its own orientors or to train them for other agencies. We believed then and believe even more now that the training of mobility specialists and peripatologists should be the function of a university rather than an agency. Most agencies are staffed only to provide services to clients and cannot spare the staff to provide an intensive training program. Furthermore, even through well-planned, in-service training, they cannot provide the necessary supporting courses which the universities offer. We do, however, believe that agencies and schools which are staffed by qualified mobility specialists are excellent resources for providing clinical or practice teaching experiences for students.

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AUTOBIOGRAPHICAL MEMOIRS*

By Baynard Kendrick

The first short story ever written about my blind detective character, Captain Duncan Maclain, appeared in Ellery Queen's Mystery Magazine in January, 1953, (there has only been one other). That was more than 15 years after the first full-length mystery, "The Last Express", about Captain Maclain, who was a fictional U.S. Army officer blinded at Messines in World War I. It was published by the Crime Club in 1937. Following is the introduction to this short story written by Frederic Dannay, co-writer with his cousin, Manfred Lee, under the pseudonym "Ellery Queen", who, like this writer, is one of the seven Grand Masters of the Mystery Writers of America, Inc.:

"Ernest Bramah is generally credited with having invented the first modern blind detective, Max Carrados, but the most famous exponent in the contemporary field of blind detection is, without doubt, Captain Duncan Maclain, created by Baynard Kendrick. Mr. Kendrick acknowledges that it was the earlier blind detective who started him writing about Maclain – but for curious reasons . . . in Mr. Kendrick's opinion, Max Carrados had very strange powers that went far beyond the limits of creditability. For example, Carrados could run his finger tips along the surface of a newspaper, feel the infinitesimal height of printer's ink over the paper itself, and 'read' any type larger than long primer. Mr. Kendrick questions that feat, and we must say we are inclined to side with Mr. Kendrick.

"Indeed, Mr. Kendrick found it so difficult to swallow Max Carrados' supersensory accomplishments that he determined to create a blind detective of his own – a completely believable sleuth who could deduce by touch, hearing, taste – and smell, with no reliance whatever either on sight or sixth sense. And the simple truth of the matter is that while Baynard Kendrick has spent 15 years of his life unearthing extraordinary things done by the totally blind, he has never had his blind detective do anything which he, Kendrick, had not actually seen done by a living blind man, or had fully authenticated.

"When it came to developing the character of Duncan Maclain, Mr. Kendrick again went to the highest authority – real life. He patterned the character of Maclain on that of a real person – a young blind soldier in St. Dunstan's Home in London, who by touching the emblems on Kendrick's own uniform, accurately traced four years of Kendrick's Army career."

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*Of late years autobiographical memoirs are rare in work for the blind. These Memoirs touch upon the war blinded in World Wars I and II; the Guide Dog Program from 1915 in Germany through Switzerland to the United States; the creation of a blind detective.

Included also is the story of the creation of *The Blinded Veterans' Association* by *Kathern F. Gruber.*

As Mr. Kendrick describes his contact with the young blind soldier, "I met him in St. Dunstan's Home in London in 1917 – more than a half century ago. Out of that contact grew the character of Duncan Maclain and from my research on Duncan Maclain grew the organization known as the Blinded Veterans Association of which I was the first Honorary Chairman of the Board of Directors and in which I still proudly hold honorary life membership card No. 1. Speaking to the B.V.A. on the occasion of their 21st annual convention at the Deauville Hotel, Miami Beach, Florida, on August 20, 1966, I was asked by one of the members if I happened to remember the name of that 'young blind soldier in St. Dunstan's Home in London' who through his perspicacity had quite unwittingly been the progenitor of the B.V.A. I was forced to say no – I hadn't forgotten his name for I never knew it; he was merely one of a number of blinded British Tommies ensconced for the time being in St. Dunstan's."

To quote Dr. Richard E. Hoover:

"One may well ask what more need be put into the record in a world which has so many documents. All of us connected with the long cane movement have tried our hands at brochures, speeches and articles. Why are these statements, technical, clear and rational, so unsatisfying? It may be because they don't tell the whole story. We have all been careful 'to leave personalities out of it.' Yet, personalities are the very factors that created the story. An associate of many years (C. Warren Bledsoe, who assisted Dr. Hoover in the training of medical corpsmen who were instructors of the blind at Valley Forge General Hospital) has volunteered the following:

> " 'It is hard to please me, I confess, with anything written about methods of teaching blind people mobility. What might be termed an 'executive' or 'administrative' view of this part of work for the blind frequently finds its way into print full of statements which tell nothing at all. Almost never is there a real impression of pupil and teacher working their way, minute by minute, quarter hour by quarter hour, foot by foot, rod by rod, fighting a hard battle which is part of so-called adjustment to blindness; by which is meant also getting on top of rage, jealousy and frustration which are brought forth and dealt with by pupil and by teacher. I *object* to bland language and pretense that it is no trick to master the art of seeming a gracious being under these circumstances, much less actually becoming one. Too often language used to describe all that goes into the struggle of blind people to be mobile is far too tender. Blindness is not 'a tender thing,' nor are most of the means to surmount it. They are for the brave and faithful who are rather difficult to describe in official or scientific language.' "

Inasmuch as what follows is almost of necessity autobiographical there is no other means of telling it except in the first person. So right here at the start I must ask the reader's indulgence for the seemingly egotistical use of the pronoun "I".

I am an American born in Philadelphia, Pennsylvania, April 8, 1894. My mother died on February 11, 1912, just before I had turned 18. I was graduated from the Episcopal Academy in Philadelphia in June of that year and expected to go to Columbia but this fell through due to my father's remarriage a few months later. In 1913, I struck out on my own and went to Detroit where I got a job assembling motors at the Packard Automobile Plant at 16 cents an hour. Even in those so called halcyon days before World War I, I soon discovered that even by putting in a 70-hour week I couldn't make enough to live on and things got steadily worse when Henry Ford put in his minimum wages of $5. a day. There were massive layoffs and riots put down by fire hoses when nearly 100,000 men poured into Detroit seeking jobs in the automobile industry.

I had been brought up in a well-to-do family where my two brothers and two sisters were all a generation older than I was and married with families of their own. By the summer of 1914 I had not only figuratively but literally hit the bottom of skid row.

It is hard to explain to anyone in these days of unions the horrible conditions that brought them into flower. It was impossible before World War I to get a job in an automobile factory and hold it unless one had enough money in his pocket to exist on for 60 days. Despite the pittance that was paid to the workers, the automobile companies held back 30 days pay and paid only once a month. That meant that you worked 60 days without seeing a cent and then drew only one month's pay. The alternative followed by the majority of automobile workers was to get a job and then quit after 30 days to get some money to eat on. By the summer of 1914 I had run out of pawnable possessions as well as Salvation Army Shelters, which were overcrowded to bursting. I had been reduced to sleeping on a bench in Grand Circus Park and panhandling for an occasional meal on Woodward Avenue. I was finally arrested for vagrancy and sentenced to a $50 fine or 60 days in the workhouse. I spent a week in that bed bug and louse-infested hellhole working in the chair factory by day and being eaten alive at night until the $50 came through from my family to bail me out.

First American To Join Canadian Forces

Canada declared War on Germany on August 8, 1914, four days after Great Britain. I was living in a boarding house in Windsor, Ontario, across the river from Detroit, and left the lunch table to go downtown to the Armory and enlist. So far as can be ascertained I was the first American to join up with the Canadian forces in World War I. After a few weeks training at Valcartier, Quebec, I became No. 6468, Private Kendrick, B.H., 1st Battalion, 1st Brigade, No. 1 Company in No. 1 Section. Since even then I was 6 ft. 2 in., I was the tallest man in my company and became flank man on the line. This was a hair-raising experience inasmuch as I was forced to pace 33,000 men in a review before Sir Sam Hughes, of whom the Canadians gleefully sang, to the tune of "John Peel": ". . . the enemy of booze. The first champeen of the dry canteen. And the camp so dead you have to go to bed, but you won't have a head in the morning."

The first expeditionary force sailed from Gaspe Bay on the 21st of September and the 1st Battalion of 1200 men was on board the White Star liner Laurentic. Thirty-three ocean liners crossed in that convoy in three rows of 11 each – the largest convoy to that date that the world had ever dreamed of or seen. There was certainly no tinge of patriotic fervor in my enlistment. I was 20 years old and the idea of putting an ocean between me and Detroit and drawing $1.10 a day plus food and clothes and medical expenses looked like paradise.

If this autobiographical prologue seems prolix and redundant I will have to plead guilty as I put it here for just one purpose – to make the point that, not until 1917 when I was 23 and blindness confronted me face to face, had I ever given it a passing thought. By that time I had served in France, Egypt and Salonica and spent over two years in Army hospitals. Subconsciously, I believe, like 99 percent of the people in the world, I blotted the condition from my mind beyond relegating it to the shadowy realm of the tin cup, pencil, and street-corner school.

In the winter of 1917, when I had been marked "C-3" by a medical board, (light duty) I was stationed in London working as a Pay Sergeant in the Canadian Pay Office at 7 Millbank. There, quite by accident, I learned that a boy with whom I had gone to school in Philadelphia had joined up with the Canadians a year after I did. Paul Henderson had been blinded at Vimy Ridge several months before and at that moment was in St. Dunstan's Lodge, the hospital for blinded soldiers in London.

St. Dunstan's – named after Dunstan, (909-988) Archbishop of Canterbury, is a charity hospital for British soldiers, sailors and airmen blinded in or as a result of World War I, or any subsequent military operation. St. Dunstan's organization started in 1915 in a mansion in Regents Park, called "St. Dunstan's Lodge", lent for the duration of the War by the American financier, Otto Kahn.

The founder of St. Dunstan's was Sir Cyril Arthur Pearson, a most successful British newspaper proprietor. In 1910, increasing – later complete – failure of sight obliged him to retire from the active direction of newspapers and from then on he devoted himself and his fortune, with whole-hearted industry, to efforts to ameliorate the condition of the blind. In 1914 at the outbreak of World War I, Sir Arthur became Chairman of the "Blinded Soldiers and Sailors Care Committee"; he also became president of the "National Institution for the Blind" and was knighted in 1916 for his service to the blind. He died in London on December 9, 1921. After his death Lady Arthur Pearson became president of the organization and Captain Ian Fraser – himself an officer who was blinded in the War – became Executive Head. In 1935, following pioneer initiative and research by Sir Ian Fraser (now Lord Fraser of Lonsdale), the Institute, in conjunction with St. Dunstan's, established what is now the British Talking Book Service for the Blind, using long playing records far in advance of the commercial market.

Captain Maclain 'born' at St. Dunstan's

I took to visiting St. Dunstan's in Regents Park regularly on Saturday afternoons to have tea and play the piano. Once having overcome my initial ingrained fear, I continued these visits for many months after Paul Henderson had been invalided back to Canada and resumed his U.S. citizenship – as I did later, in December, 1918. It was on one such visit that Captain Duncan Maclain was born although I had no inkling of it at the moment and it was 20 years later – in 1937 – before he came to life in print in "The Last Express". The conditions at St. Dunstan's for the training and welfare of the blind – while modern during World War I – seemed antiquated when compared to Valley Forge, Dibble, or Avon Old Farms. Mobility was given little thought and the grounds of St. Regents Park were festooned with strings for the blinded veterans to follow, and knots marked the benches. When I was visiting there the Lodge was so overcrowded with veterans and personnel that it had been necessary to move the piano out in the hall. There was little amusement since radio and talking books were unheard of – the big moments came when some noted entertainer, such as Sir Harry Lauder, dropped in for an evening from one of the music halls.

It was on a blustery, freezing December afternoon (1917) when I first became conscious of the fact that, while a blind man might have lost his sight, he hadn't necessarily lost his mind. I had seated myself at the piano and given my usual introduction by leading off with Tipperary and the coterie of blinded British Tommies quickly gathered around me. There was just one straight-back chair to the right of the piano next to double doors in the vestibule (always closed since a rear entrance was used) that led out onto the grounds. I had shed my cap and greatcoat and put them on that chair.

The Tommies were packed in almost solidly around me and one British Tommy was standing with his hands lightly on my shoulders while I went through half a dozen pieces. When I had finished and some requests had started, he moved around to the right of the piano, picked my cap and greatcoat from the chair, sat down and laid them across his knees. I noticed while I was playing that he giving them a thorough going over with his finger tips ("brailling" although it turns a noun into a verb – has become the common term today).

A bell rang and I was suddenly deserted by my captive audience as they poured into an adjoining lounge for afternoon tea. Only the Tommy to the right of the piano remained. He stood up, replacing my cap and greatcoat on the chair and started in without preamble as though something had been burned into his brain.

Then he said: "You certainly have been around in the Canadian Army haven't you? You've been in nearly every bleeding outfit in it. You came over here in 1914 with the 1st Battalion, went out to France with them, were invalided back here to England and then joined up with the 4th General Hospital from Toronto and went out to Salonica with them. You were invalided back from Salonica through Egypt and landed back here at Netley Fever Hospital at Southampton – that big pile of bricks with the corridors a quarter of a mile long.

"When you were discharged from Netley you went to Shorncliffe to the C.C.A.C. (Canadian Casualty Assembly Center). There you faced another medical board which marked you 'C-3' and transferred you to the Canadian Army Service Corps on light duty instead of sending you back to Canada as you had hoped. When they found out that you couldn't even lift a Ford motor, let alone carry one around on each shoulder, the sergeant in charge of the machine shop kicked to the C.O. that he was tired of being sent walking corpses marked 'C-3'. So they sent you up to this cushy job with the Canadian Army Pay Corps here in London where you will stay for the duration of the War."

I stood with my mouth hanging open, staring at him intently until I was positive that I had never seen him before. Then I blurted out, "I suppose you got all this dope from Paul Henderson who was invalided back to Canada from here a couple of months ago."

"Never heard of him," he said smugly. "He was before my time. I have only been in here just over a couple of weeks. I was blinded in the big tank push at Cambrai."

"Then where the hell did you know me and get all my Army history? You sound like you had taken it from a sheet in the Canadian Record Office."

"I don't know you, never saw you, and never will," he grinned delightedly. "Sir Arthur Pearson spoke to us here last week about how much a blind man can really see. I decided to try it out on you. Your Army history that I just gave you is written all over your uniform."

I took a closer look at his heavily bandaged eyes and decided that even if he had some vision left that it was obvious right then that he couldn't see. "Okay," I said, "Start at the beginning and spell it. I am certainly listening."

"Well, first," he said, "you have blue shoulder straps sewed on the khaki ones on your tunic."

"Blue?"

"Sure, you are wearing brass $\frac{C}{1}$'s, that is a 'C' with a bar under it and a '1' attached underneath. That was your original unit, the First Battalion of Infantry and all the infantry in the first contingent in 1914 wears those blue shoulder straps. The Medical Corps wears red. You were invalided back from France because you have a gold perpendicular wound stripe on your sleeve. Right?"

"Right! Go on."

"Also, the metal bars on each of those blue shoulder straps just read Canada so that infantry was your original unit. Now, take your greatcoat. It was just the regular khaki shoulder straps but the bars on each shoulder are cut out CAMC, running from back to front, and easy to feel. Over them you have a '4' with a small bar over a 'G' in brass. That shows you were overseas with the 4th General Hospital. It came from Toronto and was the only unit from the Canadian Army which was out in Salonica. I am no wizard but I happened to have had a cousin who was with the same outfit and most of the men from Salonica were invalided back with fevers through Egypt. So I took a guess that the same thing had happened to you. All the men invalided back to England from anywhere end up in the C.C.A.C. at Shorncliffe and go through Netley. That is if they happen to be fever cases from Salonica. But the badge on the front of your cap is Canadian Army Service Corps indicating that was the last unit you were transferred to here in England. My cousin went through that light duty routine only they sent him out to France again driving a lorry. Now, I know you are stationed up here in London with a permanent pass since you are up here nearly every Saturday afternoon playing the piano. You have Sergeant's stripes on your greatcoat so I imagine you are working as a Pay Sergeant in the Canadian Pay Office. They have no emblem of their own."

Just then, an orderly stopped in from somewhere to collect him for tea leaving me too dumbfounded to even inquire his name. He left me with a happy smile and a wave of his hand, saying "I'll be seeing you." He never did, of course, and I never saw him again. It was after New Year's of 1918 the next time I went up to St. Dunstan's and my blind detective had gone.

It was 10 years later (1927) before I came in contact with Paul Henderson again.

My father died in Philadelphia in January, 1927. Banks had already closed in Florida and our family savings were going fast while I fiddled around without much success at writing. But I had tasted blood, for 'Field and Stream' had bought my first short story, "The Captain's Lost Cake", in 1926 for $60. I hastened up to Philadelphia to see what could be salvaged from the Trades Publishing Company, publishers of the 'American Carpet and Upholstery Journal' which my father had founded in Philadelphia 10 years before I was born. I was an excellent accountant, although I had never taken out exams for a C.P.A., and I had also spent some time studying law. It didn't take me long to discover that the Trades Publishing Company was a one-man business and was staggering under the heavy competition of giant mergers such as McGraw-Hill and Chilton Publications. I sold it out the following year for practically nothing to two employees who had been with my father for years and who had done what they could to keep the dying business alive since World War I.

The day after my father's funeral, Mrs. Henderson, Paul's mother, 'phoned me to say that she had seen the notice of my father's death in the newspapers. She told me her husband, Paul's father, had died five years before. She and Paul were still living in the old family house on Queen Lane in Germantown. Could I come out to dinner? I sensed desperation in her voice and went out to dinner with them the following evening – a filthy, snowy night.

The house was a mausoleum housing a frail invalid already feeling the effects of a cancer which killed her in 1930 and her blind son, 31 years old, who hadn't been out of the house for the five years following his father's death. The dinner was meager but by the time it was served none of the three of us much cared. The bootlegger had been there and the orange blossom cocktails – orange juice and bootleg gin – had flowed freely.

This was before the day of Morris Frank and "Buddy", Jack Humphrey, and Willi H. Ebeling, founders of the Seeing Eye, Inc. I, like most people, had never heard of a Light

House, the American Foundation for the Blind, and "cane travel training" – a technique not thought of until the coming of another war. Paul Henderson was a maverick veteran as I was – an American who had fought in a foreign allied Army and dared to take up his citizenship again. Military reciprocity with Canada was then, as now, a joke. He could draw his utterly inadequate pension because he had a very obvious war-incurred disability. My small pension had been stopped in 1923 for lack of proof that the fever from which I suffered was War connected. We were a pair – along with thousands of others – that the American Legion and the V.A. were only too glad to brush under the rug and forget entirely.

Paul Henderson's mother, through ignorance, fear and overlove which caused her to do nearly everything for him but take him to the toilet, had turned him into an alcohol-soaked cabbage which could do nothing but sit and look at the back of his eyes and curse out the fictional Max Carrados and his equally fictional supernatural powers. Paul was afraid to move from that house for it had turned into the only world he knew, and his mother, through mistaken love, was afraid to let him move.

The late Hector Chevigny, in his book "My Eyes Have a Cold Nose" (Yale University Press, 1946), writing of the first month after his blindness, says:

"Not the least of the good factors attending this month was that I had a full schedule, that I was kept busy. Circumstances gave me no time for brooding, for the idle thinking that breeds resentments and envy for those whose luck has been better than mine. Not that I reasoned any of it so clearly at the time, of course; and after events, new experiences crowded in on me too fast for much sorting out and classification. The immense contribution of my friends to all this was a recognition that this month represented some sort of tremendous crisis for me and that in view of their lack of technical knowledge of what to do for a man in my situation that the best thing was to give me only such help as I might myself actually ask for.

"My conviction that that month set a pattern for me is borne out by what I've been able to learn from experiences with the war blind. (I should insert here that his first experiences with the war blind were when I asked him up to Avon Old Farms to speak to the patients. Faced with an invisible audience of a 100 or more that he could not see and who could not see him, Hector was struck dumb with panic and was forced to leave without saying a word.) The first few weeks are the critically determining period. Experiences encountered then are immeasurably more formative of habit and attitudes than the same experiences encountered later. Frustrations can have an almost ineradicable effect and conversely, success and progress at this stage can have an equally far reaching effect. The newly blinded man taking his first steps is very much in the position of a child doing the same thing. His need for orientation is all but absolute. Like the child, the problem before him is one of ascertaining his exact relation to the physical world stationary and moving objects. Delay in letting him seek the opportunity of determining this relation does more than merely delay the process; it develops a fear of trying at all. Here, once more, the advisability of telling a patient the whole truth as early as possible, in order that he may enter this critical stage without delay, becomes apparent.

"Taking his first steps, it seems as if the loss of sight has also taken from the man all but the power of touch as a means of relating himself to things. The touch is no good at a distance; he has to find things to touch them and finding them seems impossible. On his hearing he places no dependence. In time he will learn to judge the size, shape, and even the contour of a room as soon as he enters it by the 'feel' and the sound within it, but right now he fails to note even the loud clank of a passing street car on one side of him and the ticking of a clock on the other. That smell, too, may become a factor in orientation doesn't occur to him either. For the moment there is only what he can encounter with his hands and – confound it! – his shins.

"Seeing a man make these first attempts to find the chair, the door, or sitting at the table and groping for spoon or water glass, it is natural to make the mistake of assuming that all that is involved in those movements is the attempt to find what he is looking for. Your impulse, almost irresistible, is to help him. You shove the chair a little closer, you guide him to the door, you place spoon or glass within his hand. But in so doing you vitiate the real underlying purpose in those movements of his. They are his first lessons in the new relation of distance to him.

"Obviously, there is much more involved here than 'letting him be independent.' Letting him be independent is important enough – that goes without saying. But the problem goes deeper. To move that chair, to show him the door, to place spoon or glass in his hand, destroys his growing awareness of their new relation to him, and the mechanism set up within him is one of frustration.

"The completeness with which sight had guided what I considered the most habitual motions of my hands is exemplified by the fact that after 25 years of smoking I could not, after losing my sight, guide a match with any accuracy to the tip of the cigarette. It seemed incredible that after the thousands of times I had lit cigarettes of precisely the same length, my hands should not now go surely and accurately to the right place. But I found that I would be holding the match somewhere between the middle of the cigarette and three to six inches in front of it. My muscles did not 'remember'. I had to train them to perform this act by the trick of locating the cigarette tip with a finger before putting the match to it.

"This is very unscientific language, but the process of training muscles to 'remember' is a very important thing during this critical period. Once you put down a spoon and glass when you had your sight, your eyes located them again; now the hand itself must find them. To have someone move that spoon or glass, thinking thereby to help you, interferes with this lesson in muscle memory.

"It is no whim on the part of Captain Duncan Maclain, Baynard Kendrick's blind detective, that he has the furniture in his apartment screwed to the floor. Knowing where every piece of furniture is, he can move about with all the ease, confidence and speed of a sighted person. And because the sound pattern in his home is hereby made constant, he knows instantly when there is someone besides himself in the room.

"Unfortunately for the blind, however, the whole world cannot be screwed down – interesting as the results might be. Objects outdoors move around – usually fast and on wheels. The problem here is not one of establishing contact with them but of avoiding them. This is done by knowing one's relation to such stationary items as sidewalks, lampposts and buildings. If the early lessons have not been well-learned, if instead of sureness in appraising direction and distance, there is insecurity, mobility is inhibited; the result can only be immobilization through fear. The blind man stays home or in an institution for the rest of his life, or he develops the familiar idiosyncrasies of gait and carriage, born of extreme need for caution in movement, so often observable in the blind. And so the vicious circle of dependence on others is completed."

I have quoted Hector Chevigny at such length because he was kind enough to mention in the foreword of "My Eyes Have A Cold Nose" that I was among the many (far better qualified than I) who gave him some assistance with the book. The poignant truths mentioned by Hector were those that, through my own ignorance, I had never been able to impart to Paul Henderson. He was the prime possessor of "the familiar idiosyncrasies of gait and carriage, born of extreme need for caution in movement, so often observable in the blind." The most succinct description I ever heard given of it was when a sergeant trainer at Old Farms told a trainee: "For God's sake! Straighten up and relax, and quit looking like you think that at any minute your going to walk into a horse!"

After selling out the Trades Publishing Company I moved from Philadelphia to New York where I obtained a job as general manager of Bing and Bing's Hotels, which included among them the Taft in New York, and the St. George in Brooklyn. Within three months after his mother died, in 1930, Paul Henderson had sold the heavily mortgaged house in Germantown and sobered up long enough to catch a train to New York, purely because I was there. He hoped, he said, that I could get him a job at anything – night watchman, heaving out ashes, or even in some sheltered workshop making brooms. God knows I tried! The sad truth was that Paul Henderson had lost all interest in life itself. I began to dread every tenth of the month when his small pension check would come in. He would disappear from the room I had gotten him on Bank Street in Greenwich Village making a round of the speakeasies where kindly but misguided souls would buy him still more drinks. It seemed to me unfortunate at the time that he wasn't a trouble maker and no matter how much liquor he put away he never created a disturbance that would cause the police to pick him up and tuck him away. It took me more than a year to enlist the aid of a few friendly bartenders who would call me at the office as soon as he came in.

The depression caught me full in 1932 and I was let out with some 20 others a week before Christmas facing a world that seemed completely jobless. I determined at that moment that I would never work for any corporation again and would preferably starve to death trying to write; and so I rented a $25 a month apartment in a basement out at Astoria and started my first book – a Florida mystery called "Blood on Lake Louisa". (It was published two years later by Greenberg and netted me $90.) Paul moved in with me two months later. For nearly a year, off and on, we existed on what short, unsigned pieces I could sell to the New Yorker, a story to Liberty, and a line of credit at a nearby friendly Italian grocery (I ate so much spaghetti that I broke out with a wheat rash). During this time I conceived the wild idea that I might arouse some interest in Paul by reading to him what I could find about famous blind people who had made their mark in the world. Later I came to realize that he must have become paranoiac identifying himself somehow with Max Carrados and using the liquor as a crutch to bolster up his own ego against his inability to duplicate the utterly impossible feats of Ernest Bramah's overdrawn character. For Paul there was always an unanswerable excuse for the success of any blind person, for example the poet John Milton (1608-1674) was "out of the past and had been educated at Cambridge and was a natural poet before he went blind at forty-four".

I thought I might catch his interest with Sir John Fielding (1722-1780), a younger step-brother of the famous English novelist and playwright, Henry Fielding (1707-1754), who wrote Tom Jones, published in 1749. Henry Fielding took his duties as a magistrate very seriously and his novels provide abundant evidence of his view of the unsatisfactory state of penal law and administration. But in 1749 he had been dangerously ill and his health was visibly breaking.

Through his efforts in 1750, John Fielding, although blinded in an accident at the age of 19, was appointed a justice of the peace as his brother's assistant at the age of 28. He proved a worthy successor in the arduous task of suppressing professional crime and of establishing reform methods in London's administration of criminal justice. He became locally famous as the "Blind Beak" and was reputed to be able to recognize, by their voices, some 3000 thieves. He was a pioneer in the treatment of juvenile offenders and in numerous details of police administration. He was knighted in 1761 for his services and his name stands on the honor roll in the history of the modern police system. To Paul Henderson he was just another figment of the middle ages that I had dug up to annoy him and not even in a class with good old Max Carrados.

By 1932 I had reached the ultimate point of desperation and I succeeded, through my agent, in getting in touch with Mr. John A. Macy, whose wife was the famous Anne Mansfield Sullivan, who had trained Helen Keller. Mr. Macy was quite ill and died a few months later (in August 1932) but the lengthy letter I wrote his wife caught her interest and she furnished me with a list of famous blind people, including Sir Francis Campbell (1832-1914) – an American born in the Tennessee mountains, who was blinded at the age of three, and whose abolitionist tendencies forced him to leave his native state at the age of 22, when he had become musical director in an educational establishment for the blind; Dr. T. R. Armitage (1824-1890) who founded the Royal Normal College – helped by the generosity of the Duke of Westminster and the general public; Sir Arthur Pearson and Helen Keller herself. Anne Sullivan pointed out to me, before her own death in 1936, that if I had gone through the names on the list she sent me I was bound to realize the capabilities of the blind; "I was a mystery writer – then how about drawing on the knowledge that I had accumulated and creating a blind detective of my own, who would be the antithesis of Max Carrados and never perform any feat in his detection or deduction that couldn't be duplicated by some one totally blind, always presuming they had the necessary brains and will power to train themselves and try it?"

The idea of Captain Duncan Maclain was born.

During the next two years in Astoria, after Paul's death in 1933, I wrote two more books about my Florida detective, Miles Standish Rice, "The Eleven of Diamonds" and "The Iron Spiders". Greenberg published these three books and all of them together netted me something under $500. Luckily about that time, Black Mask magazine started buying the 20,000-word Stan Rice novelettes at a cent and a half a word or I never could have gotten by. The first Stan Rice appeared in an issue with my name on the cover together with those of Leslie Charteris and Erle Stanley Gardner, both old and very dear friends.

My most treasured possession is Gardner's "The Case of the Half-Wakened Wife", which he sent me in 1945 after the publication of "Lights Out", and which is autographed: "To Baynard Kendrick. With kindest regards. From a pretty fair writer to a goll-durned good one. Yours, Erle Stanley Gardner, September, 1945."

In 1935, recalling Anne Sullivan's suggestion, I took a crack at the first book about Captain Duncan Maclain and had written one-third of it when I realized that I just wasn't equipped to do it. I was too close to the gaucherie of Paul Henderson and too far away from the cleverness of the blind British Tommy in St. Dunstan's, nearly 20 years before; I knew nothing about the operation of a police department, a private detective agency, legal procedure, or the F.B.I. My mind was full of the ghosts of blind geniuses who kept popping up to haunt me. I began to see for the first time why Paul Henderson didn't consider them real; even Helen Keller's accomplishments had been so great as to almost sanctify her to the general public.

A Year of Most Intensive Research into Blindness

My experience has been that, not until one starts to write about some subject, or teach it, does one become even remotely aware of the depth of one's own ignorance.

Dropping everything but my Black Mask novelettes, which at least fed me and paid traveling expenses, I started on the year of the most intensive research in my life; I visited and talked with blind people as well as officials in more than 15 different schools from St. Augustine, Florida, north to West Virginia, and Perkins in Boston. Through a letter from Gardner I got in touch with Raymond Schindler, owner of the Schindler Bureau of Investigation, in New York. Ray Schindler was probably one of the world's greatest private investigators. He died July 1, 1959, and I believe he was the prototype of Paul Drake in the Perry Mason T.V. shows. Through Schindler I obtained entree to the Medical Examiner's office in New York and learned something of autopsies, pathology and toxicology, along with a touch of forensic medicine. The late Mike Berger, the Pulitzer Prize Winning reporter for the New York Times, introduced me to Chief Inspector J. J. O'Connell, then head of the Police Academy in New York, and a year later co-author with H. Soderman, of "Modern Criminal Investigation". Through O'Connell I learned the amazing fact that members of the New York Loft Squad were taught to shoot at moving objects which gave off a sound in a pitch dark room.

Maclain needed mobility and under the old Weimar Republic in Germany, highly interesting developments were taking place in dog training. The number of German War Blinded had been high and, at the time the dogs were first being used in police work, they were also being trained to guide the blind war veterans in both city and country walking. The movement had received its impetus in 1915 and by the 1920's there were at least four schools training the dogs in guide work, at Oldenburg, Potsdan, Breslau and Freiburg.

The idea of training dogs to guide the blind was far from being new. As early as 1819 there was a proposal to organize a dog program for this purpose in Austria but it came to nothing. There is evidence that in the informal beggars' organizations of old, dogs received some sort of training to guide their mendicant masters. The term "drunk as a fiddler's bitch" refers to the dogs with which the beggars of England used to be equipped – dogs which always demanded their share of drinks in the local pubs after a hard day of panhandling; the blind working in the quarries of Alsace have used poodles for decades. But such animals had always guided their masters over familiar paths and, manifestly, the thought of training a dog that could guide a man through busy throngs of people and across streets crowded with traffic put an almost human premium on the dog's power of judgment.

Creation of Seeing Eye, Inc.

When Dorothy and George Eustis (owners of the largest estate in Switzerland called *Fortunate Fields*, where they had long been engaged in the selection and training of dogs with a special eye to their intelligence and usefulness to man) heard about what was being done in Germany, they went to the Potsdam School to see how it was being brought about. They were very excited; this sounded like the ultimate usefulness to which a dog could be put, and if it was indeed a fact, here was "the invention" for which mankind had sought for ages – a help to the blind other than a friend's arm.

What Dorothy Eustis saw at Potsdam caused her to write an article which was published in the November 5, 1927, issue of the Saturday Evening Post and her inspired title was "The Seeing Eye", taken from Proverbs: "The hearing ear and the seeing eye, the Lord hath made even both of them."

Through the good offices of Alexander Woollcott, who had taken an interest in my project of the blind detective and had given much publicity through his radio broadcast to the "Seeing Eye" I was enabled to meet Morris Frank and his dog, "Buddy". Morris

Frank from Nashville, Tennessee, was a young blind man who was finding that dependence upon paid servants for guidance while trying to sell insurance was intolerable. Anyone who ever knew him will know that for him anything short of complete independence would have been intolerable for he was then and always a fiery rebel against conformity. When Mrs. Eustis' article was read to him, he was about 19 years old and he wrote her immediately asking where he could get one of those dogs. Subsequently, they met when Mrs. Eustis made a trip to the United States. To her query whether he would go to Switzerland to be trained, Morris Frank made the reply which now is virtually the motto of "Seeing Eye", "I'd go to hell for one of those dogs."

The following April, Frank sailed for Europe, full of hope and plans for the new life he thought he foresaw as an independent business man. Meanwhile, George Eustis and Elliot S. ("Jack") Humphrey, who had a wide background in animal training, were training three dogs for Frank – in order to be sure of one to meet his needs. Although they had seen the results of the German training at Potsdam, they had nothing but that observation and their own knowledge of canine psychology as a start. But there at *Fortunate Fields*, as they sat each morning at breakfast before their work each day with the dogs, they planned out the course, so effectively anticipating the problems of curbs, honking automobiles, open manholes and revolving doors, that virtually the whole theory of training as practiced at "Seeing Eye" was plotted out at that time.

The rest of the story is one of organization. Mrs. Eustis attempted to arouse Europe to her new interest, to make available to every government the knowledge they had developed. In Italy, after much battling with suspicion of her motives, she succeeded in persuading the bureau that had the care of the blind to participate in an experiment with her idea. Sir Ian Fraser, of England's St. Dunstan's, which had been otherwise known for its progress among the English blind, came to *Fortunate Fields* and also visited Potsdam; but on his return to England Sir Ian was unable to convince his board of directors of the worth of the idea. There was interest in other quarters of England, however, and eventually Guide Dogs for the Blind Association was formed there. Mrs. Eustis, however, decided to transfer the center of her activities to the United States where, at Nashville, Tennessee, Jack Humphrey and Morris Frank had succeeded in creating quite a stir. Of the three young men trained in the work at *Fortunate Fields*, one went to England, the second to Italy, and the third was commissioned to close *Fortunate Fields* and bring the last of its equipment and dogs to America. That third young man was William Debetaz; who is now and has been for many years – Supervisor of Trainers at the Seeing Eye, Inc., – Morristown, New Jersey.

Dickson Hartwell tells the whole extraordinary story of the "Seeing Eye" in his book "Dogs Against Darkness", which was completely revised as recently as 1968. Two more names should be noted in the organizational story and one is W. H. Ebeling. Willi Ebeling planned as far back as 1918 to retire from his export business to his place in New Jersey, in order to indulge his passion for breeding German Shepherds. The only trouble with that plan was that he knew Jack Humphrey, and after Humphrey went to Nashville to begin training dogs in numbers for the American blind, he talked Ebeling into making a trip there to see the work and then W. H. Ebeling had a new interest: the blind and their problems. His first act was to offer the facilities of his estate in New Jersey, his kennels and living quarters, to the infant movement. Twice in the next five years he thought he might be able to return to his original plan of leisure and retirement but the need for him was much too great and for years he was Executive Director of the school.

The other name which should be noted is Mary Dranga Campbell. Mary Campbell came to "Seeing Eye" in 1935 and remained there until 1946 when she retired at the age of 70. She is seventh in the famous family of Campbells, all of whom spent their lifetimes in the service of the blind. The tradition began with the famous blind Sir Francis Campbell, previously mentioned as being born in the mountains of Tennessee, who virtually revolutionized the education of blind children in England and profoundly influenced it in America. Mary Campbell brought to "Seeing Eye" her knowledge of social service and her vast fund of information on the world of the blind gained from personal experience with almost every aspect of it.

I had conceived a kind of super-dog for Duncan Maclain, a combination of protective police dog and "Seeing Eye" but this was not to be. I spent 10 days out at Whippany, near Morristown, where the school was then located, watching the training of the dogs and their future masters and Ebeling, Morris Frank and Jack Humphrey very nicely but firmly vetoed my brilliant idea. Jack Humphrey pointed out that, while the training of such a dog was perfectly possible nevertheless to mix a protective police dog trained for fierceness and a "Seeing Eye" dog trained for gentleness all in one package would be tantamount to leaving a trail of bands of old ladies and little children up and down Fifth Avenue at points where they had stopped to pat this beautiful but ferocious creature. Instead they asked me to give Maclain two dogs which they named Schnucke, a "Seeing Eye" dog "gentle as a lamb", and Dreist, a protective police dog "dangerous as a loaded gun".

I left Greenberg for the Crime Club, Inc. (Doubleday, Doran, & Co., Inc.) and in 1937 they published the first Maclain, "The Last Express", with the following foreword: "This book . . . introduces a character that is destined to become one of the better-known fictional detectives. Captain Duncan Maclain is blind, but his infirmity has forced him to develop his other senses to the point where he is an antagonist to be feared. Maclain is also aided by Schnucke, a Seeing Eye dog. It is believed that this is the first fictional use of a Seeing Eye dog, though the dogs themselves have achieved an international reputation. And the book is also unique in that, for the first time, the vast subterranean labyrinths of underground New York, with their many molelike activities, are used as a setting for a mystery story."

Together with Jack Humphrey I appeared on many top radio programs in New York and "The Last Express" became unique in another way – it was sold to the old Universal Pictures for probably the lowest price ever paid in history – $600. This netted me for the moment $540 and my agent, Willis Wing, $60. Scared to put a blind man on the screen as a detective, Universal released the picture in 1938 starring Kent Taylor as a sighted detective in probably one of the worst C-minus pictures ever made. Two years later, in 1940, when MGM bought "The Odor of Violets" for $5,000 I was forced to buy a quitclaim to Duncan Maclain back from Universal for $500 which left me getting $40 for a movie and my agent $60.

The late Edward Arnold, whose father had been blind for a number of years, was responsible for selling the "Odor of Violets" to MGM. He appeared in the production in 1942 with Ann Harding under the title of "Eyes in the Night". Although he in no way resembled the Duncan Maclain of my book his heart was in his work and the picture received top reviews. It was shown extensively overseas to the troops together with the second one, titled the "Hidden Eye", both pictures featuring only one super-dog named "Friday". They are still appearing occasionally on the late, late show on T.V.

By 1942, after Pearl Harbor, Duncan Maclain was beginning to get around, appearing not only in the movies but in novelettes in American Magazine and in serials in the New York Daily News – Chicago Tribune Syndicate. I had been called on to speak at many of the general hospitals beginning to be crowded with wounded veterans flown back from overseas, the blind generally going to Valley Forge General Hospital at Valley Forge, Pennsylvania; Dibble, at Menlo Park, California; and the Naval Hospital in Philadelphia.

Generally I told them in capsule form the story that has been narrated here. It seemed popular and sometime in the fall of 1944, as near as I can pin it down, I received a call from the Surgeon General's office asking me if I would go up and speak at a newly-opened installation, the Old Farms Convalescent Hospital, Sp. – their "Sp." standing for "special". The Army had taken over a well-equipped and most picturesque boys school at Avon, Conn., bordering the Farmington River, consisting mainly of a group of old world English buildings designed and owned by Theodate Pope Riddle, a well-known architect whose husband's fortune had been made out of the Pope-Hartford and Pope-Toledo automobiles and bicycles. Avon Old Farms was about five or six miles from Farmington and there each one of the blinded veterans faced 18 weeks of rehabilitation before he could be discharged to take up civil life again.

If I hesitated at first, it was caused by two reasons: No. 1 – gasoline rationing was in full force and I had sold my car; to get to Old Farms from New York entailed an arduous train trip to Hartford, a bus trip from Hartford to Farmington, and a trip from the Elm Tree Inn in Farmington, where an Army Jeep was to pick me up, out to the Hospital – no possibility of getting up there and returning to New York in a day.

No. 2 – was just pure fear at speaking to a group of blinded veterans – probably a hangover from St. Dunstans 27 years before. Eventually a date was arranged and I made my first talk at Avon when there were only 37 patients there. It must have gone well for I was asked to come again as more patients from Valley Forge were beginning to come in.

After four such trips, interspersed with one to the Naval Hospital in Philadelphia where I was warmly received by the patients and so coolly received by Commander A. D. Beam that I never returned, Colonel F. H. Thorne, the commanding officer at Old Farms, asked me if I would drive with him down to Valley Forge to meet Colonel James Beeuwkes, the commanding officer there. It seemed the Army had a proposition to make to me: the Surgeon General's office was looking for a sighted person who had spent some time in research on the capabilities of the blind and preferably one who could conduct a class in English and creative writing – a vocation that apparently appealed to many blinded veterans.

I started to protest, right then and there, that I didn't believe writing could be actually taught but was something that had to be mastered by the most gruelling experience in the world. I had conducted a course of lectures by the top authors of the world at New York University for Dr. Bower and even the greatest success was full of frustrations for a sighted person. My opinion was that the frustrations would be a hundred times worse for anyone blinded in battle. (My experiences at Old Farms and in reviewing books by the blind for the New York Times served to strengthen that opinion to a point where it is set in concrete today!)

The Colonel said he wasn't trying to develop a field of a thousand blind writers but merely give them a chance to find out if they could do what they wanted to do and that meant *anything*. I had been investigated through the Surgeon General's office and cleared by the F.B.I., he said, and although he knew that I had been a bit of a bum 30 years before, in consideration of my war record with the Canadians, and the books I had written since, he was willing to take a chance on me. He knew it was impossible for me to commute between New York and Hartford so he had arranged with Mrs. Riddle to rent us a house on High Street in Farmington (built in 1728 and completely furnished with $100,000 worth of antiques) for the nominal rent of $125 per month. (We were paying $95 per month for our apartment in New York on a lease.) He was appointing me, in the record, as Academic Consultant and although the Old Farms budget was heavily overloaded the Army was going "to squeeze me out" a salary of $1.00 a year.

Project Number Two, I learned after talking to Colonel James Beeuwkes, was to write a book covering the complete history of the blinded veterans and their rehabilitation during World War II, principally covering Valley Forge General Hospital and Old Farms. To do this I would have all the facilities possible extended to me both from Valley Forge and Old Farms itself; all that was necessary, as Colonel Thorne gently pointed out, was that I buy a car and then, with gas coupons furnished by the Army, I could comfortably shuttle back and forth once or twice a week, over the 200 miles between Phoenixville, Pennsylvania, and Farmington, Connecticut. The outcome was that, about a week before Christmas in 1944, Marty and I leased our apartment at 50 East 10th in New York and moved up to Farmington, bag and baggage, in one of the worst blizzards I ever remember.

The upshot of all this was that no "history" of blinded veterans at Valley Forge and Avon was written by me. What came of my time there and at the other installations where blinded servicemen were foregathered was my novel, "Lights Out", and the movie made from it under the title "Bright Victory". Though not history, this book, unlike my detective fiction, was in that most notable and trouble-making 20th Century genre of fiction which is taken straight from life, cut from a particular environment, and, no matter what the publisher's disclaimer may say, from real people.

Frequently, in order to achieve this objective, the novelist writes about those who have seldom, if ever read such a novel, or, if they have, do not realize how the material is quarried; when they are brought face to face with it in a novel, the result is apt to create no small stir. I say all this by way of explaining that my novel about the war-blinded virtually wrote itself while I was teaching at Avon, because the environment and people were ready-made novel material. Thereby from real life and real emotions, I gave the Army more than it had bargained for in the way of writing lessons for the troops. I also gave myself more than I had bargained for. Under the stress of being written about, both the Army and some individuals not only were chilly to me, but responded with a certain number of retaliatory legends, some of them highly apocryphal.

Of these days something else came which the Army had not bargained for and viewed with alarm. This was the Blinded Veterans Association. It was organized by the blinded veterans themselves, but I must plead guilty to having been the catalyst for it on the basis of my experience with Paul Henderson, whose disintegration continued to haunt me. Before recalling my rather consuming ordeal in helping to get the BVA underway, I should say the time when I was teaching, making trips back and forth between Avon and Valley Forge, and later making trips for the BVA, all run together in my memory.

Only a few personalities stand out clearly – probably because I brought them fictionally to life in my book "Lights Out": Colonel F. H. Thorne, commanding officer of Avon Convalescent Hospital; Colonel Derrick T. Vail; Colonel James N. Greear; and Captain Linus Sheehan, who smoothed my way at Valley Forge; Lts. Richard E. Hoover and Paul Conlan, of Valley Forge. All of them spent several days with me at Farmington, more or less trying to sell themselves on the formation of the B.V.A., or to talk me out of what seemed at the time to them a very silly idea.

Outstanding in their help were Dr. Robert B. Irwin and Miss Kathern F. Gruber, of the American Foundation for the Blind, New York, N. Y., and the Reverend Thomas J. Carroll, of the Catholic Guild for the Blind, Boston. Never to be forgotten were Mr. Arthur J. Brothers, my old friend and a brilliant lawyer who drew up the first organization charter for the B.V.A.; and, among the blinded veterans themselves, Raymond Frey, whom I drove up from Valley Forge to Avon to become the B.V.A.'s first president; Russell C. Williams, who succeeded Ray Frey as advisor to the blind patients at Valley Forge, and who is now Chief of Blind Rehabilitation, Department of Medicine and Surgery, Veterans Administration, Washington, D.C.; and last, but decidedly not least, the late Lloyd Greenwood, who took the arduous position of the executive director (when Russell Williams found that he could not accept the appointment because of work which he was doing at the time and intended to do in the future) in 1946 and held it faithfully from then until 1953, and Irvin Schloss, who held the position until he resigned and was succeeded by William W. (Doc) Thompson in 1958. It is needless to say that this association could never have come into being without the blessing and help of Generals Omar Bradley and the late Paul Hawley, together with Warren Bledsoe – constantly pushing from behind the scenes.

The following message from the president of the B.V.A., Raymond Frey, appeared in the B.V.A. bulletin for May, 1946:

> "I believe that it is a good idea to inform you of the amount of time, effort and expense put forth by Mr. Baynard Kendrick, on behalf of the Blinded Veterans Association. It is no more than fitting that I start at the beginning, for indeed that is where Mr. Kendrick came into the picture. As many of you know, the B.V.A. was officially started at a meeting of a hundred trainees at Old Farms Convalescent Hospital on March 28, 1945, Pincus Hoffman presiding. A constitution was adopted which had been drawn up by our legal advisor, Mr. Arthur Brothers, who has been extremely kind to the B.V.A. The constitution developed from ideas and opinions expressed at a former session of blind veterans and thus, the B.V.A. was born. Nine men were chosen as a board of directors; Pincus Hoffman, Joseph Smietanowski, Wilbur Washburn, William Aziz, Lloyd Greenwood, John Millon, Henry Massey, Al Schmid and Raymond Frey.
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> "Mr. Baynard Kendrick was appointed Honorary Chairman of the Board of Directors. The directors began to meet from time to time in order to formulate plans and activities of the B.V.A. A temporary office was set up in New York at our present address (22 East 17th Street), and Mr. Kendrick and a sighted secretary, Mrs. Barbara Sheppard, took charge of the office handling correspondence and other business which came to our headquarters. Mr. Kendrick made many trips on our behalf, even traveling to California, and has been doing much toward advertising the B.V.A. and has worked hard to open fields of employment for us, so that we should have a good start.
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> "It was originally planned that all expenses were to be met by dues of the members. This idea was not practicable. Our membership was small; this can partly be explained by the high initiation fee and the unproven value of such an organization. Therefore steps were taken to change the constitution.
>
> "Briefly, we decided to accept contributions; secondly, we put such contributions in a trust fund held for us by the American Foundation for the Blind; and thirdly, we abolished the $20 initiation fee.
>
> "Being in the office came to be a full time job, for which Mr. Kendrick was receiving no compensation. It was either a question of Mr. Kendrick's giving up the job or devoting all of his time to it. Through generosities, it was made possible for Mr. Kendrick to spend all of his time and effort to help during the next difficult year of the B.V.A.'s existence. He has given up his writing for the year in order to help train an executive director, who is now ready to take over his duties, and to hold the reins of the organization. Also, Mr. Kendrick is

making efforts to raise $250,000 for the next 10 years. Mrs. Sheppard resigned her job to accept another, so Mrs. Kendrick, temporarily, has been substituting as our sighted secretary, and doing a fine job. When the executive director takes over the office, Mr. Kendrick will supervise his training, as well as continue his efforts on the drive for funds. We owe much to Mr. Kendrick, for without his services it is my firm conviction that the Blinded Veterans Association would have collapsed. Let's all give Baynard a vote of thanks! Fraternally yours, Ray Frey."

Greenwood First B.V.A. Executive Director

Lieutenant Lloyd Greenwood, B-24 pilot was flying over Vienna on May 26, 1944, when his plane was peppered with a burst of flak and a piece of it blinded his right eye; another lodged in his throat; and a bit of the destroyed windshield blinded his left eye; I met him first at Valley Forge General Hospital when he was 23 years old. He liked to kid about the deluge of events that followed his blinding, which included his catching diphtheria after two days in the hospital in Italy and his wife having a baby in Rochester, New York a month later. He was the first Executive Director of the Blinded Veterans Association.

For more than a year while we were getting the B.V.A. "out of diapers and on to its feet", Lloyd and I worked together nearly every day, and half of every night. I had moved down to New York from Farmington and in my own small office, at 22 East 17th Street, we wrote and edited every word of the first editions of the B.V.A. Bulletin, got them off to the printers, and on their return from the printers, I addressed them while Lloyd sealed and stamped them.

It was a rough show! We tramped the streets of New York together, in the heat and cold, looking for a larger office which would meet the budget – which was nothing – until we finally found one at 80 Warren Street. We appeared on more than 20 radio programs, and traveled the country from coast to coast, seeking funds for the B.V.A. Lloyd got pats on the head and dollar bills shoved into his pockets from tycoons at luncheon clubs and promises were plentiful, including one of a benefit performance from one of New York's hit shows which fell through when we discovered the blinded veterans were supposed to go out and sell tickets on the street corners. The first hard cash we ever saw came from a program of Mary Margaret McBride's when, in desperation, I flipped my lid and gave my opinion of the ignorance of the general public, and promisers who didn't pay. For two solid hours the switchboard at the studio was jammed with telephone calls, and through the efforts of Mrs. Enid Haupt, one of the owners of the Philadelphia Inquirer, some money began to trickle in, which was placed in trust with the American Foundation for the Blind, subject to withdrawal by the officers of the BVA. It was just enough to keep us going for a little while.

Only Lloyd's dedication, wit, courage, humor and ability to roll with the punches furnished me with an incentive to carry on – and there were his black spells, too, of which he had plenty – when it would be my turn to make with the hollow laugh, and give with the phony bundles of good cheer.

Meantime, I had written "Lights Out" and dedicated the book to "Lt. Lloyd Greenwood, U.S.A.A.F., who has vision" and in it I tried to tell quite truthfully some of the amazing things I had seen.

One incident – where two blinded veterans from the deep south, one white and one black, had bumped into each other at Valley Forge and become the closest of friends until the white boy discovered he had been running around with a Negro – undoubtedly caused some repercussions on the basis that it did not represent a general attitude. I cannot regret the attention I focused on race prejudice and think this may have had something to do with the fact that the blinded veterans as a group, through the years, had influenced each other positively and constructively on this subject.

Reviewers did well by me: One by which I felt particularly rewarded was from the *Chicago Sun*: ". . . no plaudits could underline the value of this book as an eye opener about people whose eyes are closed through our latest venture into the realm of indiscriminate murder. This is not a "Helen Keller". This is not the story of a victory over a handicap. This is the story of new light in an old sea of blackness, and if a special Pulitzer Prize could be created for a book with both a heart and a brain, "Lights Out" has the next 20 years award sewed up tight".

Against Lloyd's advice, I sold it "down the river" to the movies for a paltry $10,000 which looked like a windfall then. That $10,000 dumped into the pool enabled us to get a new office, such as it was, and hire a secretary. That money kept the BVA afloat until Dr. Irwin and the American Foundation for the Blind came to our financial rescue. Finally we hit the jackpot of a $75,000 endowment fund from the gracious ladies of the Women's International Bowling Congress the following year. Lloyd was with me when I dictated the letter to a public stenographer in the Statler Hotel, Washington, that secured that fund.

To say how and why I had to give up the Honorary Chairmanship of the Blinded Veterans Association would not penetrate even slightly the thick hides of those I believed at the time were the villains of the piece, and the situation was so confused it might well cause misunderstandings and hard feelings among the people I continue to regard as real friends.

Looking back, I am even willing to say there were no villains but rather a set of conditions. Certainly one factor was the way in which I had written about the realities in the lives of the veterans as I saw them.

The field of work for the blind is small. Everyone is embarrassingly close. And so was I.

Apart from this there was some element of the need all handicapped persons and groups have to demonstrate to themselves and others that they can go it on their own.

"Kay" Gruber – Sweetheart of B.V.A.

I was cheered in a painful sort of way when a blinded veteran said I had "committed the unpardonable sin of writing about an irrefutable untruth."

Through all these growing pains Lloyd Greenwood and I had one staunch and unwavering ally and she is described by Warren Bledsoe as "that most gloriously militant" Kathern F. Gruber. Kay Gruber had been made Director of War Blind Services at the American Foundation for the Blind by its Executive Director, Dr. Robert B. Irwin, and her assignment was, expressly, to goad him on the subject of the war blinded inasmuch as he had many other things to think about. A VA training officer said of her – "Whew! Whew! Whew! That lady's Hell-on-Wheels and the sweetheart of the Blinded Veterans Association." She never turned me down on my call for help more than 25 years ago and when I started this piece, which suddenly grew into a small history of the war blinded in both World War I and World War II, I immediately wrote her at Oakland, California, where she is carrying on as a consultant for services for blind persons and again asked her help. And here I most happily and gratefully present the conclusion in the words of Kay Gruber, sent to me in March, 1970:

"One of the first things that Dr. Irwin told me when I assumed the directorship of the services for the war blinded at the American Foundation for the Blind was that all kinds of people and associations were trying to influence the blinded veterans to organize and join up with them! He alerted me very wisely because I encountered them almost immediately. There were those who wanted not only the Navy war blinded, but the entire group under their thumb. You will recall that several members of the staff at Dibble Hospital, Menlo Park, California, were rather high ranking members of the National Federation of the Blind and that consequently you had a rather cool reception on one of your visits out there. Then there was that amazing blind woman who, as I recall, covered California with two phony blinded veterans and tapped every member of the movie colony so that you were able to raise nothing from them when you yourself went out there.

"I shared with Dr. Irwin all these rumblings which I heard in the field and we agreed upon three things: 1. That an organization coming out of World War II must not fall into the 'infighting' that occurred with the World War I men coming out of Evergreen – a prime example of how not to handle a rehabilitation of blinded veterans. 2. That the organization must be an *independent* one but might need financial assistance to achieve that independence. 3. That the American Foundation for the Blind would not exploit the war blinded even though it might itself give financial assistance to the organization.

"We proceeded along these lines and that was the reason that the American Foundation for the Blind underwrote the young organization and your work with it as it did during those growing years. You, Baynard, were brought into the A.F.B. picture because I had discussed your book with Dr. Irwin, who, after learning about the content of the book, very much wanted to meet you.

"This brings me to my reading of the book to Dr. Irwin, known generally around the Foundation as R.B.I. Very frequently Dr. Irwin would ask me to accompany him on the afternoon Congressional Limited to Washington for meetings, conferences, etc., especially if the subject matter concerned the war blinded – as it frequently did. It so happened that on one of these occasions, you had just sent me the galley-proofs of "Lights Out." I took it with me because I thought the four-hour ride to Washington could be utilized in reading it to R.B.I. Of course, the first order of reading was to check the latest readings from the stock market for him. Though blind all his life, he was a very sharp trader who had amassed a considerable fortune. I am sure you will never forget the many happy weekends that you spent with some of the blinded veterans at his beautiful home in Pompton Lakes, New Jersey.

"I never did learn to read the stock market quotations very well, partly because they didn't interest me, and more because I wanted to talk with him about the war blinded! On that particular day, we had two chairs toward the center of the parlor car in the middle of the train and right after the reading of the market items, I unrolled the galley-proofs and started reading. Dr. Irwin, who could sleep at the drop of a hat, was immediately interested and whirled his chair around, leaned forward and asked me to read a little louder, which I did – much to the astonishment of all around us. I had read about half an hour when he stopped me and asked: 'Is this man, Kendrick, a blind person?' I assured him you weren't and he said: 'Well, he certainly knows a hell of a lot about how these kids feel!' More than once he would ask me to repeat certain passages and a quizzical look would come over his face. Once again he asked me: 'Katie, are you *sure* that this man isn't blind?' (He was the only one at the A.F.B. who ever called me Katie.) I gave him double assurance – and kept on reading. R.B.I.'s face became more and more florid – the galley pages rolled off – the parlor car became emptier and emptier as all the occupants were going to the diner.

One thing that Dr. Irwin enjoyed immensely was eating dinner on the Congressional on the way to Washington – but this day there was no dinner. He wanted me to finish reading that book before we arrived and finish it we did just as we were coming into the station!

"Of course, you know pretty much what happened after that – you and he met – he ordered 25 copies of "Lights Out" and had you autograph them and sent them off to 25 of his close friends; he was also instrumental in having Alexander Scourby read it for the talking books.

"After Mr. Migel, Dr. Irwin's close friend and a heavy supporter of the A.F.B., had met you and put up $10,000 with the Foundation to help you carry on with the B.V.A., there were those many times when we worked together on different projects. Our trip to Mitchell Field to that rehabilitation conference planned by the brass was certainly a gathering of the high and mighty from all over; Lowell Thomas was there and every general in the Army and Air Corps, with the exception of General Marshall who was ill. I can't remember that this assemblage really accomplished much as a group but that the two of us certainly accomplished something in that General Bradley took note of us, bought us a drink, invited us to come to see him in Washington at any time with our ideas and problems – and sent us off in his private car to catch our train. It is interesting to remember that he kept every promise he made to the letter. I believe that you had a floor verbal altercation with one "of the brass" about providing training for the blinded veterans and he came off second best! And I *do* remember that nurse from the upper echelon of nurses organizations, (from Minnesota I believe) the one with the flowing green veil, who was talking in a high voice most of the time and saying nothing at all all of the time. There were delightful meetings with General Bradley after that – meetings which produced real results, and you remember them better than I. Especially the one where General Bradley presented you with a plaque from Pageant Magazine inscribed 'Jobs, not pity, for the blinded veterans of World War II.'

"Particularly I shall never forget the day you burst into my office and said: 'Kay, you have to come with me. One of the fellows flipped last night, wrecked a bar, flattened four cops, and was taken to Bellevue Hospital in a strait jacket. We've got to get him out as soon as we can.'

"I dropped everything, telephoned Dr. Irwin and told him where we were going. He said something about God blessing us and wished us well in our experience with *that place*. The red tape at Bellevue was interminable and apparently nobody in the history of New York City had ever been released from there under 48 hours once they were taken in under restraint. As I recall, one of your old friends, the late Fred Woltman, a triple Pulitzer Prize winner who had acted as public relations man for the New York papers for the B.V.A., finally called up Albany and got a dispensation from the Superintendent of Hospitals. Finally we were on our way to that locked ward at the top of the building, walking behind a very muscular orderly who was swinging that great bunch of keys. One by one, doors were unlocked and each time we found ourselves locked in again by a guard who seemed to know pretty well what he was doing and seemed amused at what he was doing to us! Then we finally arrived and sat on that bench outside the room from which those non-human cries and sounds were rolling out and I remember thinking that if we had to go into that room, *we* might never come out again. I remember distinctly looking in and seeing the boy we were after, stripped of shoes, plastic eyes, and everything but shirt and pants, lying under a bench to protect himself. I remember the force with which he gripped our arms as we started off with him down into the nether regions where he could claim his belongings and when we asked him what had happened in the ward he said very quietly: 'Oh, nothing much. They just ate the orderly!'

"It was a harrowing experience but, as R.B.I. said: 'Thank God there was some one who could do something about it before it was too late.' I, particularly, was very naive about institutions such as those. When we were walking down those cold cavernous tunnels I remember stating that I smelt 'something sweet' and you snorted at me: 'Good God, Kay, the morgue is on either side of us and what you smell is the sweet smell of death!' I shall never forget that experience and I know that it made both of us feel that no matter what the circumstances were, there would be no blinded veteran who could not get help from us in similar circumstances if we but knew about it.

"To end on a lighter note, I am sure that you must remember the time that you went up to have tea with Marty at the mansion of the fabulous old lady, Theodate Pope Riddle, who *owned* Old Farms and, during the course of the conversation, it suddenly dawned on you that she was spiking your tea with 150-proof Lemon Heart Rum. You got a bit flustered when Mrs. Riddle complimented you about your leadership of the group and responded by saying: 'I really don't think I've been such a shight and briny light!'

"I am sure that now, 25 years later, you must still be just as 'shight and briny' for I understand that Paramount has just taken an option on Captain Duncan Maclain and intends to open a new series on television with a 90-minute feature picture. May the good Captain Duncan Maclain be as wonderfully inspiring to the newly blinded veterans coming in, and who have already come in, from Korea and Vietnam, as he was to those in World War II. My Love, Kay."

OPTOMETRY AND THE VOCATIONAL REHABILITATION PROGRAM

By Sterling B. Brinkley, M.D.

Possibly no one enjoys the reputation for knowledge of optics which is accorded to Dr. Louise S. Sloan, Associate Professor of Physiological Optics at Johns Hopkins Hospital. It was, therefore, fortuitous that she should have been chosen to discuss optical aids for the low-visioned at the 1967 Conference on "Research in the Service of Man: Biomedical Knowledge, Development and Use", co-sponsored by the U. S. Senate Committee on Government Operations, the Subcommittee on Government Research and the Frontiers of Science Foundation of Oklahoma. In this paper she focused on the widespread neglect of optical remedies for low vision and pointed out that the Rehabilitation Services Administration was very close to unique in having invested rather widely in optical aids clinics for the low visioned. Though not all of them had continued to flourish when Federal support had been withdrawn, Dr. Sloan singled them out as a massive attack on a front which most public and private programs chose to ignore.

Her analysis of the optical aids problems was as follows:

> One of the difficulties encountered in establishing these centers was in obtaining qualified persons to examine the patients. In a few clinics the work was done by part-time ophthalmologists or optometrists. The reports from most clinics state that the reading aids were prescribed by an "optical aids counselor" but give no information as to his or her qualifications. There is, I believe, an urgent need for establishing some sort of school for proper training of those who wish to specialize in this type of work. It may be difficult, however, to find suitable persons. The prescribing of reading aids is not as dramatic as doing something to prevent or to cure blindness. It takes patience, ingenuity, and adaptability but also requires a specialized knowledge of ophthalmic optics, and of the effects of the various eye diseases and anomalies on visual capabilities.
>
> Another difficulty experienced in maintaining a sufficient number of low-vision centers is that in many cities the patient load was so small that the clinic operated only 1 day a week or less. I am convinced, however, that there are many who could profit by the use of such aids who are not referred because of widespread ignorance about what can be achieved. It is possible that Government surveys such as that of the model reporting area will aid in locating some of the neglected blind and partially seeing.

Presented by Dr. Brinkley at the 47th Annual Southeastern Educational Congress of Optometry February 12, 1970, in Atlanta, Georgia. Dr. Brinkley is Medical Officer, Rehabilitation Services Administration, S.R.S., Department of Health, Education, and Welfare, Wash., D.C.

Rehabilitation

Naturally those of us in the Rehabilitation Services Administration, while grateful for Dr. Sloan's discrete praise, are not only eager to exploit what we have done correctly in her eyes, but to push on to more achievement wherever we see an opportunity. It is therefore a pleasure for me to participate in this Forum.

The public has never been more concerned about the magnitude of the complicated problems – economic, social, and health – imposed by disabilities. Despite the increase in the number of and expenditures for programs aimed at preventing disability, of providing medical, hospital, community and rehabilitation services, the number of persons who are disabled increases at a pace beyond our apparent capacity of provide optimum services.

We are looking at our traditional approaches to the resolution of these problems and asking ourselves how best these approaches may be strengthened or modified so that they may be more effectively applied. I welcome this opportunity to discuss the Rehabilitation Services Program. From its beginnings in 1920, the basic concepts undergirding this program have remained essentially the same. On an individual basis, persons who have a disability which constitutes a significant handicap to employment are evaluated to determine their assets and their liabilities. The vocational counselor and his client develop a rehabilitation plan which identifies the services and training necessary to help the individual find and keep suitable employment. Arrangements are made for the client to receive these services and training in a coordinated manner; counseling is provided throughout the process until the goal of suitable employment is achieved.

In support of this activity and related rehabilitation activities sponsored by voluntary and other official agencies, the Social and Rehabilitation Service supports research and demonstration projects, training programs for the development of skilled manpower, research and training centers, and projects of construction, remodeling and technical assistance for rehabilitation facilities.

You may be particularly interested in the development of optical aids clinics under the research and demonstration program. Some 28 clinics were developed for persons with low visual acuity to increase their opportunities for employment. A list of these clinics with their addresses will be found at the end of this paper. A typical clinic was that sponsored by the West Virginia Division of Vocational Rehabilitation as an integral part of the West Virginia Rehabilitation Center. The purposes of this clinic were:

> To apply in West Virginia new knowledge, methods and techniques that have become available in recent years for improving the residual visual function of visually handicapped persons;
>
> To strengthen and expand State and community resources, services and facilities for the rehabilitation of visually handicapped or blind persons;
>
> To coordinate the resources of voluntary organizations and the West Virginia State Division of Vocational Rehabilitation;
>
> To increase the number of blind and visually handicapped persons being prepared for remunerative employment;
>
> To do this by extending throughout West Virginia the modern optical aids services necessary to help visually handicapped persons to make maximum use of their residual vision;

And to make information about the results available to other parts of the nation.

The clinic was staffed by a vocational counselor, social worker, ophthalmologist and an optometrist. Dr. Earl P. Fisher, the clinic optometrist, had this to say about the project:

> "In my work with the Optical Aids Clinic, I have found that it is stimulating and rewarding. I think that the thing that has impressed me the most is the very fact that a clinic such as this must be maintained in West Virginia. [I think that statistics will show that a good percentage of these people can be helped and eventually use other rehabilitation services, with the final goal of gainful employment.]
>
> "With the unusual assortment of optical aids needed, a man in private practice could not possibly have all these aids. Unless these patients with markedly reduced vision were referred on a Statewide basis, he would not have enough patients to justify an extensive subnormal vision practice.
>
> "Since the only sure way these patients will be referred on a Statewide basis is through the Vocational Rehabilitation Division, I certainly hope this clinic will be a permanent part of the West Virginia Rehabilitation Center."

Optical aids clinics point up a problem of great national concern. In 1964, Miss Switzer and Warren Bledsoe of the Vocational Rehabilitation Administration spoke of "one of the most neglected and distracting elements in the field work for the blind; namely, the unusual needs of the partially blind. The longstanding practice of dealing with their problems through methods contrived for the totally blind has been the cause of much trouble."

A special study of the clinics financed by our agency was conducted in 1960 by Dr. Richard E. Hoover, Eye Chief, at the Greater Baltimore Hospital Center. His finding was that approximately half of the 796 individuals studied could be helped with special lenses. As we look about for resources to do something about this there are a number of avenues down which we might travel.

In 1961, SRS initiated the support of Research and Training Centers. These centers are universitywide in scope and support is given to them by the Social and Rehabilitation Service so that they may conduct creative independent research and train professional and allied personnel in the physical, psychosocial and vocational aspects of rehabilitation. They develop a high degree of interdisciplinary cooperation and involve the various departments of the university in meaningful rehabilitation research and training. This program now includes 18 centers as follows: 11 medical centers, 3 centers in mental retardation, 3 centers in vocational rehabilitation and a center for the deaf. In 1969, a National Center for the Deaf Blind was established in New York City at Industrial Home for the Blind. There are Research and Training Centers at the University of Alabama, and at Emory and Baylor Universities. Possibly the School of Optometry at the University of Alabama will initiate cooperative research training activities involving rehabilitation with this Research and Training Center.

Research involving refraction, optical aids, and adaptive training could be considered. For example, we measure visual acuity by the Snellen Notation, but find that no two persons with the same measured acuity have identical visual problems. We know too little about this. More effective ways of measuring usable vision are needed. The team of optometrist, mobility instructor, and ADL instructor could play an important part in developing this knowledge.

I had the pleasure of talking with Dr. Henry Peters, Dean of the University of Alabama School of Optometry. He reports some most encouraging plans for that school which should give optometrists, physicians, and members of other health professions opportunities of working together, developing mutual respect, an understanding of special talents that each profession offers and the ways these talents can best be coordinated in supplementing services to the disabled.

As students reach their clinical years, they will provide services at the University Hospital, The Veterans Administration Hospital, The Eye Foundation, The Center for Development and Learning Disorders, at a Visions Functions Laboratory at this Center, and at the Spain Rehabilitation Center. Several of these centers at the University receive support from Social and Rehabilitation Service. It is anticipated that Research and Demonstration projects incorporated in these programs will involve optometry.

There is no doubt in my mind that such integrated teaching programs will give new strengths to the program of optometry and reduce the enervating effects of interprofessional discord.

The Rehabilitation Services Administration through its Division of Mental Retardation sponsors some 18 University-Affiliated Centers for Mental Retardates such as the Center for Development and Learning Disorders at Alabama. These centers are developing visual services which will emphasize the importance of sight for the mentally retarded.

At other facilities such as the D. T. Watson and Harmarville Rehabilitation Centers, in Pittsburgh, Pennsylvania, optometrists such as Dr. Harry Wachs have helped evaluate children with Cerebral Palsy to determine the degree to which visual impairment contributes to their learning and reaction problems.

The Vending Stand Program provides employment for more than 3,341 operators. These operators had gross sales of $86.4 million, a net profit of $17.8 million, and an average income of nearly $6,000. Although all operators must be legally blind, more than 60% are partially sighted and have been helped or could be helped by services at low vision clinics. Another role for optometrists.

Other programs include: grants to States to expand services for disabled persons in order to increase the number of persons rehabilitated; innovation grants, which introduce new techniques or are designed to increase service for physically or mentally handicapped persons with particularly severe disabilities; grants to official or voluntary agencies to help in the planning and construction of rehabilitation facilities and training services for clients.

The vocational rehabilitation services program has the additional important function of pointing up to other programs that give thorough comprehensive study of the problems faced by an individual, a coordinated program of services, health, social, psychological and vocational – a person relegated to a life of dependency may find hope and develop the abilities to live productively and with personal satisfaction.

With this brief overview of some of the activities of the Rehabilitation Services Administration, I shall now discuss in more detail the mechanics of the operations of the vocational rehabilitation program within States with special reference to the role of the optometrist in these operations.

Referrals to the State agencies were made by physicians (15%), by hospitals and sanatoriums (15%), by educational institutions (13%), by public and private welfare agencies (12%), by State employment services (6%), and 11% were self-referred. The client has a medical-social-vocational history taken by the counselor.

Arrangements are made to have a general medical examination – a survey of his total health – not limited to the disability itself. This examination is usually done by the client's personal physician. It is at least comparable in scope and quality to the periodic health examination provided in industrial health programs.

Specialty examinations and/or X-ray and laboratory tests may be recommended. Arrangements are made for these studies by the counselor and the client with full consideration of the recommendations of the client's personal physician, according to the policies and procedures of the State agency involved. Some States have a panel of board qualified medical specialists and select individual specialists on a rotating basis; others find that a limited number of specialists are particularly knowledgeable about the needs of the vocational rehabilitation agency and therefore selectively refer clients to them. When board member specialists are not reasonably available, physicians who serve their peers as specialists in a given field may be selected.

After the medical evaluation is completed, a rehabilitation plan is made with the client which includes all indicated remedial or restorative services – hospitalization, surgery, services at rehabilitation centers, outpatient clinics, doctors' offices, etc. If a visual examination is recommended because a disease process involving vision is suspected or needs to be ruled out, the client is typically referred to an ophthalmologist who is a member of his specialty board. However, if in the course of this evaluation it is determined that there is no disease process involving the vision of the client but that he has a refractive error in need of correction, the client may be referred to an optometrist or to an ophthalmologist depending upon many differing local factors, including the personal choice of the client.

Policies and practices are developed by the States in conformity with Federal Regulations defining some specifics. They are supplemented by Manual materials developed by the Central Office, and interpreted to meet local circumstances by the State Agency Director with the advice of his State Medical Consultant and his Medical Advisory Committee.

Last year at about this time, I had the pleasure of presenting some thoughts about optometry and vocational rehabilitation at the Public Health Optometry Workshop in New Orleans, Louisiana. I was most impressed with the men that I met on that occasion and I became more aware of the problems that doctors of optometry face in offering their services to clients of such State-Federal programs as vocational rehabilitation.

At that time I expressed the personal view which is consistent with views of the Rehabilitation Services Administration that the profession of optometry provides services of a high quality which should be utilized fully by State vocational rehabilitation agencies in providing services for its clients – that these services should include visual services as well as the refraction and prescription of glasses – that attention to vision is an important consideration in the rehabilitation process of all the severely disabled, and that screening for visual acuity as well as screening for constitutional disorders such as diabetes should be incorporated in the workups of every client of the program.

In the past year, progress has been made. At the least, problems involving the full utilization of optometrists in the vocational rehabilitation programs have been identified.

For example, the Federal Regulations published in the Federal Register on October 17, 1969 requires that:

> ". . . . The State plan shall provide that, prior to and as a basis for formulating the vocational rehabilitation plan for any individual . . . . there will be a thorough diagnostic study, which will consist of a comprehensive evaluation of pertinent medical, psychological, vocational, educational, cultural, social, and environmental factors. The diagnostic study shall be adequate to (1) establish the presence of a physical or mental disability; (2) appraise the general health status of the individual; (3) determine how and to what extent the disabling conditions may be expected to be removed, corrected, or minimized by physical restoration services; and (4) select an employment objective that is commensurate with the individual's interest, capacities and limitations.
>
> ". . . . The State plan shall further provide that the medical diagnostic study shall include (1) complete general medical examinations, providing an appraisal of the current medical status of the individual; (2) examinations by specialists in all medical specialty fields, as needed . . . . ; and (3) such clinical laboratory tests, X-rays, and other indicated studies as necessary to establish the diagnosis to determine the extent to which the disability limits (or is likely to limit) the individual's daily living and work activities, and to estimate the probable results of physical restoration services."

This requirement may be interpreted as limiting all diagnostic services in health related fields to those provided or supervised by doctors of medicine.

When opthalmologists and optometrists have established cooperative, mutually respectful, working relationships, this requirement does not interfere with the provision of the most appropriate services for a client of the vocational rehabilitation programs. When such relationships have not been established, it is apparent that the services of optometrists are not being fully utilized.

I do not question the requirement that all significant disorders affecting sight be evaluated by an opthalmologist. It is in the provision of restorative services that there may be differences of opinion.

The Regulations stipulate that the State plan shall set forth policies that the State agency will follow in furnishing physical restoration services to handicapped individuals to the extent necessary to determine their rehabilitation potential or achieve their vocational rehabilitation.

It is a requirement that "the State plan shall further specify that eye glasses and visual services may be prescribed and may be provided by either a physician skilled in diseases of the eye or by an optometrist, as authorized under State law."

Manual material more recently developed makes the following recommendations:

A. *General Policy of the Agency*

It is recommended that the State agency establish a general policy of providing visual services when indicated by diagnostic and evaluative services to all eligible individuals. It shall be the policy of the State agency to refer a client to a physician skilled in the diseases of the eye when the provision of visual services uncovers an indication of pathology of the eye.

B. *Range of Visual Services*

  a. Visual services, including but not limited to:

    1. Eye surgery and/or treatment. (In addition to requirements set forth in this section, all appropriate criteria contained in Section I of this chapter must be satisfied.)
    b. Visual training, as necessary in the treatment of amblyopia and strabismus.
    c. Orthoptics and pleoptics.
    d. Refractions to assess the degree of hyperopia, myopia, astigmatism, presbyopia, and other visual deficiencies requiring correction.
    e. Examination and training services necessary for the prescription and provision of conventional lenses, contact lenses, telescopic and microscopic devices, and other special aids as prescribed by a physician skilled in diseases of the eye or by an optometrist. The prescription of optical aids for the extremely low visioned during the last decade has been given special emphasis by vocational rehabilitation agencies. Available data indicate that the number of persons who can be helped by reading aids is 5 per 1,000 of the population which exceeds the estimated number of legally blind persons per 1,000 of the population (2.14 per 1,000). In order to make the most effective use of subnormal vision aids, usually there is need for a special training aide to supplement services provided by the ophthalmologist or optometrist. After prescription and fitting, the special aide should work with the client to make certain he is able to make maximum use of the special lenses. This is within the scope of visual services and, therefore, qualifies for Federal financial participation.
    f. Analysis of visual functions at various working distances to evaluate visual efficiency.
    g. Provision of prosthetic devices.

C. *Selection of Providers of Services*

It is recommended that agency policy provide for free choice by the client of physicians skilled in diseases of the eye or optometrists from among those who meet the agency's standards for providing the service required in the case and authorized under State law.

D. *Responsibility of Agency's Medical Consultant*

Under the general administrative direction of the State director, the State medical consultant has primary responsibility for development of a sound program of medical direction and adequate consultation with respect to medical and health aspects of rehabilitation. Since eyeglasses and visual services are encompassed in the broad category of physical restoration services, his agency function (as set forth in Chapter 5, Section 2, of this manual relating to physical restoration services) would obtain in the provision of eyeglasses and visual services.

I am aware of some of the barriers which were imposed by the American Medical Association on cooperative activities by physicians and optometrists.

The Department of Health, Education, and Welfare is on record that "the American public should continue to have freedom of choice in the selection of a practitioner to care for vision problems" and the profession of optometry is accepted by the Department of Health, Education, and Welfare as an essential health profession which is performing highly useful functions in promoting solutions to the eye needs of this Nation."

The Rehabilitation Service Administration by its Regulations and Manual material does not wish to create barriers to the full utilization by the State-Federal vocational rehabilitation program of optometrists as they are licensed to practice within States. We look to statesmanship on the part of organizations representing optometry and medicine to resolve any remaining differences they may have on a mutually satisfactory basis. It is not the function of RSA to arbitrate relationships between professional associations. We are pleased when we find States taking constructive actions involving optometrists. For example, Ohio has a fee schedule arrangement for refraction, glasses, and follow-up visits which is comparable to that of ophthalmologists. An optometrist will be a member of the Agency's Medical Advisory Committee, participation for optometrists is based on memberships in the Ohio Optometric Association. In Wisconsin, Dr. Howard Fleming is Chairman of the Vocational Rehabilitation Advisory Counsel.

In the future, we in RSA see the need for more comprehensive care of all elements involving the abilities of persons who have disabilities which are a handicap to employment.

How these services may be incorporated in State vocational rehabilitation programs in a realistic manner while giving primary attention to the priorities of serving thousands of persons with pressing problems amenable to resolution in a manner best suited to their local circumstances must be developed by each of our States.

In reaching these objectives, State agencies will look to professional associations for guidance. I am confident that they will find the American Optometric Association willing and able to be of significant assistance to them.

OPTICAL AND CLINCS
(Supported in Part by OVR Grants)

Project Number	*Organization*	*Address*	*Project Director*
RD-226	Washington University School of Medicine	640 S. Kingshighway St. Louis, Mo. 63110	Benjamin Milder, M.D.
RD-235	Georgia Division Vocational Rehab.	129 State Office Bldg. Atlanta, Ga. 30334	A. P. Jarrell* John S. Prickette
RD-263	Indiana University Medical Center Dept. of Ophthalmology	1100 W. Michigan St. Indianapolis, Ind. 46202	Fred M. Wilson, M.D.
RD-276	Penn. Working Home for the Blind	36 & Lancaster Ave. Philadelphia, Pa. 19104	Neal R. Curtin
RD-277	Oklahoma Vocational Rehab. Division	1212 North Hudson Oklahoma City, Okla. 73103	Robert W. King, M.D.
RD-348	Grace-New Haven Community Hospital	789 Howard Ave. New Haven, Conn. 06519	Carlton Phillips, M.D.
RD-398	Rhode Island Assn. for the Blind	39-40 Arcade Bldg. Providence, R. I. 02919	Helen W. Worden
RD-399	Vanderbilt Univ. Hosp.	Nashville, Tenn. 37203	Richard O. Cannon, M.D.

RD-400	Cleveland Society for the Blind	1958 E. 93 St. Cleveland, Ohio 44106	Cleo B. Dolan
RD-416	Utah Commission for the Blind	309-315 E. First S. Salt Lake City, Utah 84103	Donald W. Perry
RD-498	Univ. of Texas Southwestern Medical School	5323 Harry Hines Blvd. Dallas, Texas 75235	Carroll W. Browning, M.D.
RD-515	Univ. of Mississippi Medical Center	2500 N. State St. Jackson, Miss. 39202	Samuel B. Johnson, M.D.
RD-525	John J. McCook Memorial Hospital	2 Holcomb St. Hartford, Conn. 06112	Louis D. Harris, M.D.
RD-563	Mobile General Hosp.	850 St. Anthony St. Mobile, Ala. 36603	Eugene deJuan, M.D. o/c Mr. J. F. Blend
RD-570	State Board of Vocational Education	State Capitol Bldg. Room W-400 Charleston, W.Va. 25305	Earl W. Wolfe
RD-590	Nevada State Welfare Dept., Bureau of Serv. to the Blind	311 North Curry Street Rm. 113 Carson City, Nevada 89701	Mervin Flander
RD-617	University of Miami	Coral Gables, Fla. 33146	Edward W. D. Norton, M.D.
RD-701	Presbyterian Eye, Ear and Throat Charity Hosp.	1016 E. Baltimore St. Baltimore, Md. 21202	Richard E. Hoover, M.D.
RD-852	Sinai Hospital of Detroit	6767 W. Outer Dr. Detroit, Mich. 48235	Morris J. Mintz, M.D.
RD-876	Arkansas Enterprises for the Blind	2811 Fair Park Blvd. Little Rock, Ark. 72204	J. B. Gross, M.D.
RD-1241	Eye Research Foundation of Bethesda	4806 Rugby Avenue Bethesda, Md. 20014	William M. Hart, M.D.
RD-1327	State Center for the Blind & Visually Handicapped	P. O. Box 339 Honolulu, Hawaii 96809	Mrs. Yasuko Takemoto
RD-1344	Marquette University School of Medicine Dept. of Ophthalmology	561 North 15th St. Milwaukee, Wisconsin 53233	John Hitz, M.D.
RD-1542	Cincinnati Association for the Blind	2045 Gilbert Avenue Cincinnati, Ohio 45202	Benjamin P. Groves
RD-1787	State University of New York at Buffalo	462 Grider Street Buffalo, New York 14215	W. Yerby Jones
RD-1846	Oregon Commission for the Blind	535 S. E. 12th Avenue Portland, Oregon 97214	K. Nolen Tanner, M.D.
RD-1974	Department of Ophthalmology, State University of New York Upstate Medical Center	766 Irving Avenue Syracuse, New York 13210	James L. McGraw, M.D.

RD-2026	Division of Ophthalmology College of Medicine University of Tennessee	62 South Dunlap Memphis, Tennessee 38103	Roger L. Hiatt, M.D.

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*deceased

THE CANADIAN NATIONAL INSTITUTE FOR THE BLIND OPTICAL AIDS PROGRAM

By Ruth M. Heron

In 1926 an Austrian discovered that by holding a linen tester (a small magnifying glass used to count the number of threads per square inch in cloth) over ordinary print, he was able to make out the letters. That linen tester was the first low vision aid. Since then a great variety of lenses and instruments have been developed to help those people who do not benefit from ordinary glasses.

Seventy-five percent of persons in Canada classified as "legally blind" have some vision. With the help of visual aids, many of them can learn to use their remaining vision. This residual vision is extremely important, for, if it can be used effectively, it often allows an adult to recover employment or continue in a job which might otherwise be lost. It can help a student to continue education uninterrupted or provide a new lease on life for the elderly person falling into a state of mental lethargy through lack of ability to read, write, or maintain interests and hobbies.

First Clinic Opened

The importance of this concept prompted the Canadian National Institute for the Blind, in 1957, in partnership with the University of Toronto, to sponsor a Low Vision Clinic at the Western Hospital in Toronto, Ontario. Here the medical problem could be classified and visual aids prescribed. Dr. D'Arcy Macdonald, a Toronto ophthalmologist, was named director.

The clinic was held one morning a week and Dr. Macdonald saw each patient himself. Referrals were made by private physicians, hospital eye clinics and CNIB. All patients had to have a complete ophthalmological examination before referral. After examination at the Clinic, patients were referred back to the source from which they came.

When low vision aids were prescribed, the patient was sent directly to the optical company for fitting. In Toronto, the Imperial Optical Company was used, as they had the greatest variety of visual aids and because they had a fair volume of patients and were efficient at fitting.

All patients were expected to contribute something toward their appliance. If the patient does not have some financial interest in the device, there is a tendency to accept it and then not use it. The CNIB helped indigent patients to purchase their low vision aids.

In the beginning, CNIB employed a part-time social worker who attended each clinic, interviewed the patients, and did a follow-up visit in the home if the patient lived in the Toronto area. For the last six years of the clinic's existence, a nurse from CNIB's Eye Department replaced the social worker.

A thousand people were seen at this clinic in the nine years of its duration (1957-66). Figures indicate that 60-65% received some positive help.

One of its youngest clients was all of 5 years old when first seen. He was a smiling, blonde youngster who could not play out of doors because light troubled his sight so much, and also because he hadn't learned to focus on even large objects and often stumbled and fell. Tinted glasses with a high prescription improved his sight. These glasses made it possible for him to take his place in a sighted school.

There was an attractive teenager who, because of a birth injury, had only a small degree of vision in one eye. Even this amount of sight did not develop to its full potential until she was fitted with a telescopic reading lens. Thanks to the combined efforts of the girl, the clinic, and the understanding CNIB volunteer who helped her, her distance vision has become more useful. Her near-near or reading vision has improved so much that instead of straining to see a book held touching her nose, she is now able to read large print without magnification at a convential reading distance. She can also read normal books held several inches away for several minutes.

A powerful plastic hand-magnifying glass made it possible for an elderly woman to read her own mail.

Low Vision Centre Moves to CNIB

It gradually became obvious that a more comprehensive service was needed which could include greater emphasis on training and education, and integration of this work with the other CNIB departments. It was, therefore, decided to discontinue the clinic at the hospital, and to set up a similar operation within the walls of CNIB to serve the whole province of Ontario.

On December 1st, 1966, a Low Vision Centre began operation at CNIB National Office, 1929 Bayview Avenue, Toronto. In its first full year of operation, the number of new patients seen rose by 400% over the previous year at the hospital clinic. Perhaps the most important change was the large increase in the number of visually handicapped school children, seen chiefly at the request of various boards of education in the Toronto area. This has resulted in greatly increased co-operation and we hope will lead to a richer school program for these children.

Dr. W. S. Hunter, Director of the Centre, examines patients one morning each week. In 1967 a second ophthalmologist was retained. Since then the Centre has operated for a full day each week. In the future it is hoped that enough doctors can be retained to operate the Centre on a full-time basis.

The Imperial Optical Company has loaned Mrs. E. Gow, an optician, who is in attendance at each clinic session. Thus she is able to fit each patient immediately after examination by the doctor.

At time of writing, the staff of the Centre consists of two ophthalmologists, 2 nurses, 1 optician, 1 clerk and a corps of volunteers.

Follow-Up

A small group of specially trained volunteers work with the clients after the visual aids are obtained to help them adapt to their use. Younger people adapt quickly to the aids and use them effectively, but older people need a great deal of encouragement from the staff – and especially from their families.

Volunteers work on a one-to-one basis. Although there have been a few failures when the clients have not been too highly motivated, on the whole the results have been gratifying.

Few adults adjust to the more complicated visual devices without some help and encouragement. It may be that the mechanics of the optical devices will have to be explained to them time and time again, or it may be that they are experiencing reading difficulties and will require a certain amount of teaching.

Somehow we must supply not only the answers to the mechanical problems of seeing, but we must be able to at least diagnose some of the perceptual problems so that we may talk knowingly to the educators and the parents.

In order to help people adjust to their prescriptions or visual aids as quickly as possible, it is sometimes necessary to use the solutions which have been found to aid or correct perceptual problems. Thus the Low Vision Centre equipment includes many special books, pegboards, blocks, blackboard and raised letters. The store cupboard resembles a small toy shop.

One young girl, who obtained a low vision device, was ready to send it back after two months claiming it was useless. A volunteer was found to help. She not only helped with reading problems, but also helped the girl to acquire a greater command of English. Now this girl is able to read current magazines and newspapers with her visual aid. Without it she can even read large print books.

It is an advantage if volunteers have a teaching background. While they are able to help the client develop greater reading skill, they are also on occasion able to help upgrade a client academically. However any well educated public spirited and patient person, who is willing to try his hand at a new volunteer task, should be considered.

Special materials are a great aid in teaching – special lights, book supports, or large print books and magazines. Large print text books are now available for students up to college level, through the co-operation of CNIB and the provincial department of education. Many local libraries also have large print books to lend.

Since the Low Vision Centre opened in December 1966, nine hundred new patients have been seen. Each patient who received a prescription was seen again after two to six months to have his vision checked and the success of the visual aid assessed. From a sampling of 100 cases, taken in February 1969, 60% had good results, 15% fair and 15% poor.

There are now many low vision clinics established throughout Canada. CNIB is only actively associated with a few, but the facilities in Toronto are used as a teaching unit for university ophthalmology students and for graduate ophthalmologists across Canada who are interested in setting up similar clinics. CNIB has also arranged to send several doctors to New York to study low vision facilities there.

British Columbia

A Low Vision Clinic was established at the Ophthalmology Research Unit at the University of British Columbia, Vancouver, in December 1968, in collaboration with CNIB.

This clinic is open every Monday evening. During 1969 a total of 108 persons were examined. Ninety-two were helped.

It was especially rewarding to note the number of students examined and the marked improvement the low vision aids provided. The majority were given lens for distance use as well as close work.

The clinic is under the supervision of an ophthalmologist, Dr. R. G. McCreery. Appointments are available only on referral from ophthalmologists. CNIB donated the majority of the trial low visual aids used in the clinic. If there is a financial need and no local resources are available, CNIB assists the patient to pay for the special aid and the CNIB Eye Service Department assists at this clinic with clerical work. It provides a follow-up service to ensure that the aids are being used effectively and also assists school personnel on the proper approach to the partially sighted student.

Since the Low Vision Clinic is located at the Ophthalmology Research Unit, it serves as a part of the teaching program of the university.

Saskatchewan

In Saskatchewan a Low Vision Clinic is located at University Hospital, in Saskatoon. The clinic is directed by Dr. R. G. Murray, head of ophthalmology, University of Saskatchewan and conducted by a visiting consultant, Dr. C. H. Andrews. The clinic has been operating on a one day a month basis since June 1960.

The majority of the 284 patients who have attended the clinic have been referred by ophthalmologists or optometrists in Saskatchewan. Dr. Andrews estimates that 80% of those patients seen have been helped.

The clinic was operated under a Federal/Provincial Grant until last year when the cost of operation was assumed by The Canadian National Institute for the Blind, Saskatchewan Division.

Help Must Be Available

The needs of the partially sighted are almost as varied as the people who are seen. Each deserves help and the chance to make the fullest possible use of his or her residual vision, whether a child to view the blackboard, or a man to follow the stock market listings.

RECENT RESEARCH ON ADVANCED COMMUNICATION AIDS FOR THE BLIND

By Charles E. Hallenbeck, Ph.D.

The efforts of many scientists, engineers and other experts are continuing to be spent on devices and systems to aid the blind. Their efforts are increasingly imaginative and meeting with steadily greater success. However, the time is not yet upon us when we can state that the major communication problems of the blind are solved, and we must conclude that we are still on some kind of threshold. The door is opening wider, no doubt, but we remain on the doorstep, full of hope.

Those who are interested in the application of technology toward solving many of the problems of blindness may obtain a statement of the history and scope of the area, along with definitive state-of-the-art reports, in "Proceedings of the International Congress on Technology and Blindness" (5). There have been occasional update papers on topics within the range of the earlier work, but, to the author's knowledge, no equally comprehensive work exists, and our progress since that time has been largely in detail, and not in principle or approach.

This paper, like those of Dupress (10) and Freiberger (12) will attempt to report the latest developments in one area of that earlier work, but cannot hope to be exhaustive or definitive. The report will concern itself with the use of new electronic devices as communication aids for the blind. The term "communication aids" should be understood to include reading machines, novel Braille displays, and schemes for using computers that permit the blind to "time-share" large facilities. We shall not attempt to review the developments in environmental sensing, mobility or the implantation of electrodes to provide general purpose substitute sight. Good reports exist elsewhere on these latter topics. (6,9).

Before identifying areas and projects where recent advances are most evident, it seems desirable to comment briefly upon a danger in presenting a review such as this one. The risk is well known to workers for the blind, and involves the danger of prematurely arousing hopes and expectations regarding devices that appear to perform miraculously.

Problem is Not a Trivial One

Perhaps more bitterness and recrimination is generated over what is termed the "failure to deliver the product" than over any other aspect of scientific solutions to human problems. "That's all well and good," we say, "but how can I get one for myself?" In order to avoid arousing the appetite of the potential consumer, some have argued that reports of progress be restricted to technical journals. The lay public, according to this argument, must not know about developments and improvements until research permits the marketing of a product. The present writer is in sharp disagreement with the protective and restrictive attitude outlined above, and yet the problem is not a trivial one.

Indeed exaggerated accounts of potential benefit have clearly invited excessive anticipation among the moderately informed. Much of the work reported by Mallinson

(18) comes quite close to this category. The work to be reported here will be described essentially as it is, and while the inherent benefits will not be suppressed, neither will they be paraded and advertised as a glimpse of what the future holds.

The term "reading machine" can be separated into at least three distinct meanings for purposes of discussion. A machine which "reads" by identifying marks made on paper, whether made by pencil, magnetic ink or ordinary printing, is a highly desirable machine for many applications, perhaps the least of which is the needs of blind persons. Our computerized society requires that more and more attention be paid to means by which we communicate with machines. The punched card, devised some 90 years ago by Herman Hollerith for the use of the U. S. Census, has been a mainstay of modern business communication, and, indeed, has become a kind of symbol for those who feel oppressed or dehumanized by life in the late 20th century. Punched cards must be prepared by keypunch operators before being submitted to computers for their scrutiny, and the disastrous consequences of a wrong punch are well known to all of us. Why not devise a means by which the machine can "look" at the data source just as the keypunch operator looks at it, and by-pass that step of the process, which is tedious and error-prone anyway? Machine-scored answer sheets for educational tests, magnetic-ink character recognizers for banking applications, and optical character recognition schemes for other applications are important to the commercial and scientific "establishment", and research is proceeding and will continue to proceed along those lines without any reference to the needs of the blind. For our special needs, we have much to gain by way of what space scientists call "spin-off" from this general line of development.

A second meaning of the term "reading machine" is found by noting that there are many applications in which a machine must "read information *to*" a human being, rather than "read information *from*" a piece of paper. The telephone company employs a "reading machine" to give rate and routing information, time signals, weather reports, and in some places, recipes and prayers, all automatically, and all on demand. Again, the efficient announcement "This is a recording" is familiar to everyone. Such systems, too, have proceeded without reference to the needs of the blind but are nevertheless a significant segment of technological advance with potential for aiding the communication problems of blind persons, as well as others.

The third meaning of "reading machine" is the one most often implied when speaking in the context of communication aids for blind persons. The total system which "reads" information from a piece of paper, and then "reads" it to a human being, is a simple union of the first two kinds of reading machines. Now, however, the needs of the blind become prominent in the possible applications of such a total system. Research has proceeded for a long time toward devising a machine that might read to the blind. There is no scientific reason why such machines cannot be devised to perform an admirable job. There are, however, serious engineering and economic reasons why the development of such machines has been slow to be realized.

Five Devices Merit Review

The field of reading machines may be narrowed considerably by limiting our attention to devices which (*1*) are conceivably within the economic range to permit ownership by a substantial number of persons, (*2*) are well along toward final testing and evaluation, and (*3*) exhibit some special feature of interest. There are five such devices which merit review in this context.

Perhaps the device in this classification closest to being marketed is that described recently by Lauer (16) and developed by Mauch Laboratories (26) under contract with the Veterans Administration. The device is actually a family of related devices, all of which contain a mechanism with which the user scans an ordinary printed page. The "Visotoner" emits a pattern of tones ranging in pitch from a low to a high note, the pattern corresponding to the distribution of dark ink on light paper under the scanner's gaze. This device is in the tradition of the d'Albe Optophone (30) and the Battelle Reader (7), and provides the blind user with a portable, personal reading aid. Lauer's article describes the availability of this device, the methods by which both veterans and non-veterans are trained in its use, and the special course offered by the Hadley School for familiarization and orientation to the device. Like other devices of its kind, only a very small number of users have achieved satisfactory reading speeds.

Two other members of this family of reading machines are the "Visotactor" (26) and the "Cognodictor" (26). The former is quite similar to the Visotoner in its over-all design and operation, except that it displays a tactile pattern in response to the sensed light-dark discriminations, rather than an aural pattern. Both the Visotoner and the Visotactor are what have been termed "direct translation" devices, in which the pattern of light and dark on paper is simply translated into another modality, sound or touch, so that the blind user has the opportunity to learn to recognize this transformed information. The Cognodictor, on the other hand, contains circuits which permit it to "recognize" characters printed on paper, and to "substitute" rather than "transform" these patterns. The machine stores recorded speech counterparts of the various patterns it is designed to recognize, and so produces spelled speech output which the user learns to follow with some ease. This device is much more complex than the first two mentioned, but still within the reach of persons for whom expensive automobiles are also reasonable pieces of personal property.

These three devices, the Visotoner, Visotactor and Cognodictor, comprise the culmination of many years of research and development by Mauch Laboratories, and the serious student of technological solutions to blindness should consult the standard references for detailed familiarization with that particular branch of the field (26).

The second of the five devices currently under discussion is the "Lexiphone", which for some years has been under development at the University of British Columbia by Dr. Michael P. Beddoes (2). Prototypes of this device are reported to be ready for field testing by Mr. O'Neill (22) of the C.N.I.B. Like the Mauch Visotoner, the Lexiphone scans the printed character and produces a sound pattern which the user learns to recognize. However, unlike the Visotoner, the Lexiphone employs a much more complex code of output signals. Not only tones of various pitches but atonal sounds such as hisses and clicks are incorporated into the aural display. In his perceptual research on information displays, Nye (21) has presented convincing data and arguments to the effect that multi-dimensionality of the display is important in facilitating speed of assimilation and ease of recognition. Beddoes' Lexiphone seems to have implemented this fact, and by substituting a multi-dimensional sound pattern for the pattern of light and dark, the user's task should be simplified, and his maximum reading speed should be greater than those for the user of the simpler direct translation devices. Data confirming these statements are not yet available, but as the prototypes come into experimental use, some fairly straightforward comparison studies should become possible, and their outcomes will considerably advance our understanding of this aspect of the display problem.

Continuing Progress in Size and Cost Reduction

One of the more interesting aspects of the Beddoes device is a matter which is also evident in most of the other devices outlined here. The Lexiphone has been delayed in its progress toward completion by the fact that advances in our electronic technology are happening so fast and are of such a profound nature that there is continual risk of neglecting some quite important new advance in the design of the device. O'Neill reports, for instance, that the device demonstrated at C.N.I.B. weighed 42 pounds, but that other prototypes under construction will weigh 30 pounds. Beddoes himself anticipates that the full utilization of micro-miniaturization of components will permit packaging the Lexiphone in a volume no larger than an ordinary blackboard eraser. These are remarkable changes in the physical properties of the device. Such changes obviously affect the utility and economy of any device having the ultimate market value of a personal portable reading machine for the blind. It is not easy to identify an analogous dilemma in the design of devices. One could imagine the dilemma, however, if the old "highboy" console radios of the 1920's had to compete with the pocket transistor units of today. Reading machines must not only function with known and useful characteristics, but as Beddoes has demonstrated, they must incorporate every significant modern advantage in size and cost reduction as well.

The third of the current set of five devices is that under development at the Stanford Research Institute by John G. Linvill and James C. Bliss. (4) The device is a direct translation reading aid in which the optical pattern on a scanned surface is transformed directly into a pattern of vibratory tactile stimuli. The user places the finger of one hand on a matrix of poke-probes, while the other hand guides the photosensor across the line of print being read. Linvill and Bliss have undertaken a very advanced approach to the problem, and in their reports (17) present many basic engineering data which extend fundamental knowledge of the optics and mechanics of such devices.

Of very special importance in the research on the Linvill-Bliss device is the design and fabrication of an entirely novel end organ or stimulator for tactile displays. The unit is called a "piezoelectric bi-morph", and its small size and high efficiency permit the construction of a dense matrix of vibratory points that requires minimal driving power. The piezoelectric effect is the property which many crystaline materials exhibit, in that applying a physical displacement across their surfaces in the form of a twist or pressure results in the development of an electrical potential between two surfaces. Phonograph cartridges long utilized this principle. The principle is reversible, as well, and applying an electrical voltage causes a corresponding twisting or distortion of the cyrstaline material. Linvill and Bliss have fabricated a "bi-morph" (two-shaped) unit which can transform an applied voltage into a physical vibration by means of this piezoelectric effect. The units may be packed together with 0.1 inch spacing, and the electrical power required to produce felt vibration is less than that required to produce a direct electrical shock sensation. The design of this reading aid, like that of the Lexiphone, fully reflects current technology, and indeed is helping to advance that technology as well.

Linvill and Bliss report that their subjects, after varying amounts of training, can achieve reading speeds at least equal to those realized with the Mauch and the Beddoes devices. Their work has reopened an old controversy in perceptual studies with the blind. It was once confidently felt that reading by touch was far more efficient with Braille encoding than with the direct tactile portrayal of printed shapes. Few experts in tactile perception would have predicted the high performance attainable with the bi-morph arrays. The design simplicity of the Linvill-Bliss device, coupled with its good performance, make this device a highly attractive item for further study and development.

The fourth device in this series of five is radically dissimilar from those already described. It does not scan characters on a page nor present aural or tactile patterns derived from the transformation of such characters. The device employs Braille output and requires a specially prepared tape to provide its input information. It nevertheless fills the important requirements for a "reading machine". While it lacks some of the capability of many of the devices already described, it possesses others which are not shared by its competitors. The unit is under development at Argonne National Laboratories by A. P. Grunwald (14). The following enthusiastic description of the device was provided by a British visitor to Grunwald's laboratory:

> "Imagine a streamlined plastic case, some fourteen by eight by two-and-a-half inches, taking an ordinary three-inch reel of audio recording tape: in that little space you have 1,000 *printed* pages, plus the capacity for as much of your own notes, and the keyboard by which to enter them as part of the device. The whole idea is that the blind student should have no more in his briefcase than his sighted colleague with three average textbooks. You have the ability to fast-forward wind, having previously dialed up the point at which you want the tape to automatically stop. You have the ability, too, to vary the speed and to read up to 310 words per minute, reckoned to be the fastest speed that a human being can achieve with Braille. And the prototype of this machine undergoes field tests in less than a year from now, having already been extensively tested in the laboratory. At present it weighs about seven pounds, and should be about five when on the market, and it should sell at around 300-400 Pounds Sterling. The Braille is produced on a moving line, the fingers being kept stationary – once the technique has been mastered. Everyone so far using it has experienced a 30% increased reading speed on the machine within five minutes of starting to use it for the first time. . . ." (8)

The Grunwald reading device is similar in principle to the unit designed at M.I.T. by Blanco (3). The Blanco device was a "direct and continuous mechanical transducer" and required that a tape be specially prepared as an input medium. In the case of the Blanco device, the tape was punched paper tape, and it could not, like the Grunwald magnetic tape, be "written on" by the device itself. Blanco's report is worthy of the serious student's careful attention, since it provides a fascinating history of the vagaries of a design project, including numerous variations and modifications which ultimately proved unworthy of retention in the final design.

It was stated earlier that little has developed since 1963 that could be identified as new in principle, and yet the Argonne system seems to be so. The claim of such high reading speeds referred to by Colman in describing the Grunwald device will be quite difficult for many to believe. However, Grunwald's claims are not spurious, and his writings reflect a superior appreciation for the dynamics of reading, both visually and tactually (15). While the devices described earlier permit reading speeds approximating half that of a good Braille reader, the Grunwald system claims to permit reading speeds up to twice that of a good Braille reader. In part, Grunwald supports this claim on the basis that a continuous moving belt of characters enforces sounder scanning habits upon the Braille reader. This aids in the correction of poor reading habits stemming from improper instruction which uncritically copied the visual reading model as a useful approach for tactual reading.

The fifth and final device in this group of reading machines is perhaps the least well developed, and is not ready for field tests or marketing evaluations. It is included here because it represents a highly systematic approach to the problem of personal reading machines by a group relatively new to this research area. At the University of Virginia, McVey, Moore and Ramey (19) have undertaken to study the feasibility of a new design approach to recognition-type reading machines. They have contrasted their approach with that adopted by the Cognitive Information Processing section of the M.I.T. Research Laboratory for Electronics (29). The latter group, like the team of scientists at Haskins

Laboratory (30), is not at all in pursuit of a personal reading machine, but is studying a computer-based large-scale device which has the capability to scan an input surface and produce connected and integrated speech sounds. The M.I.T. project, guided by Troxel, has utilized a so-called "flying spot" scanner to peruse a page of print. The scanner incorporates the necessary computer processing logic to permit it to "learn" to recognize characters. That is to say, it is exposed to a repeated series of input patterns, and is "told" by the experimenter the meaning of each. The logic of the machine permits it eventually to abstract from the varying patterns all those necessary and sufficient elements associated with a given "decision". In this way, the scanner and computer "learn" to assign the correct "name" to a class of input patterns.

The output of these devices can take a variety of forms, the most elegant of which is a synthesized human voice, pronouncing connected vocal sounds, and not merely spelling successive characters. The vocal output may be "compiled" from stored equivalents of a large vocabulary, or actually "synthesized" by a set of production rules derived from a phonetic examination of the distinctive features of spoken speech. There is no doubt that this large-scale approach to the reading machine problem will eventually add to the information accessible to the blind, but it will very likely only be available at some central facility on a limited, special purpose basis, and will not be for personal ownership.

While the M.I.T. effort is centered on machines which "learn" to recognize patterns, the University of Virginia approach is designed to provide a reading machine with "pre-learned" rules for recognizing characters. The device which that group has designed, and which is not yet completely built, employs a set of 31 invariant characteristics which can constitute elements for character recognition. The invariant characteristics are of the form "there is one column of elements in the character space which has nine or more of its cells dark", "there are at least three but not more than five rows in the character space which have seven or more of their cells dark", "the left-most column and the right-most column of the character space have none of their cells dark", etc. Some of these rules seem intuitively important, since they might identify the vertical strokes of the letters "B", "D", "E", "F", etc., or the presence of a diagonal or horizontal stroke that would distinguish between an "H" and an "N". Some of the rules are very arbitrary, however, and it is not clear that all of the ones chosen are equally useful. They were chosen strictly by "brain-storming" and guess-work, since the authors report that no systematic method of generating useful invariant characteristics exists.

The interesting feature of this scheme is that the input pattern is first reduced to a series of "hits" or "misses" for the set of invariances, and these far smaller numbers of hits and misses are then used to produce a recognized character. Furthermore, the actual logic performing this reduction of patterns to characteristics and characteristics to recognition, is an interchangeable component part of the final device, so that it may inexpensively and conveniently be modified to "recognize" a large variety of type fonts. The Moore, McVey and Ramey design is highly similar to the Mauch Cognodictor described earlier. The device would be economical enough for personal ownership although the cost would once more approach that of an automobile, and it would function by recognizing characters and producing spelled speech equivalents of the string of characters which it reads. The advantage seems to be in a replaceable built-in logic, providing some of the flexibility of machines which "learn" while preserving simplicity, economy and compactness.

Production and Use of Braille Literature

While it is not within the scope of this paper to review the problems in the production and use of Braille literature for the blind, nevertheless in several important respects the utilization of advanced technology is having an impact in that area, and some of those effects will be discussed here. One important new possibility has already been referred to in an earlier section of this paper. The Blanco Braille Belt and the Grunwald Braille reading device represent significant attempts to bypass some of the problems in standard embossed Braille.

The Braille system won acceptance over its competitors after long years of conflicting claims of superiority. Superior as the final scheme undoubtedly is, there are nevertheless important disadvantages to the method. First of all, the rules for Grade II Braille translation involve both syntactic and semantic components. The rules for contraction, in part, depend upon the meaning or pronunciation of the possibly contractible component characters of a word or syllable. This fact is of minor difficulty to experienced transcribists, and yet it is of major concern to those who would like to reduce the rules to a systematic set of procedures for implementation by machine. Computer buffs cannot arbitrarily alter the rules of Braille to render them programmable, much as they would like to do so. Nevertheless, to produce the necessary reading material for all blind readers by human transcribers is an increasingly impossible task. The cost of producing Braille is matched in magnitude by the scarcity of trained transcribists. Professor E. L. Glaser (13) has declared that the rules of Grade II Braille are “recursively undecidable”, and students of Professor R. W. Mann (28) have analyzed those rules by information theory principles in order to recommend useful changes. It is indeed awesome to recognize that recursively undecidable or not, in violation of information theory or not, human transcribists of Braille nevertheless do remarkable jobs in the preparation of the necessary reading materials.

To the best of the writer’s knowledge, computer programs to correctly translate English text into Grade II Braille by accepted standard rules all run a poor second to the Braille transcribist in the accuracy of adherence to the rules. The transcribist, however, cannot even enter the race when speed and volume of work are the criteria. Braille translation will require a separate article in “Blindness, 1980”.

As far as the actual display of the Braille information, there are three projects which illustrate the utilization of advanced technology to the Braille scene, in addition to the Blanco and Grunwald devices outlined earlier. All three are highly experimental and are perhaps prematurely reported here. However, they do provide some sense of the direction in which research is currently underway.

Norman Southerland (27) has argued in favor of a new design for a modular mechanical component capable of displaying a single Braille character. The units would be used in groups to form a line of Braille information which the Braille reader would scan in the usual manner. Southerland’s device measures a quarter inch wide, four tenths inch from front to back, and about an inch high. The top surface (one quarter by four tenths inch) is the standard size of an embossed Braille character, including its surrounding separating spaces. The unit contains six tunnels, located at the positions of the Braille cell, and running from the top surface of the unit through to its bottom surface. Each of the six tunnels contains a rod about half the tunnel length which slides easily up to the top of the tunnel when air is forced into the bottom and drops easily back down to the bottom of the tunnel under the force of gravity when the air pressure is removed. When the rods are raised to the top of the tunnels, their rounded tips protrude above the surface to form the Braille dots, and the rods are locked in place by a platform. Halfway along the length of the tunnels is a sliding platform containing six holes aligned with the tunnels. The platform permits the rods to pass from one half of the tunnels to the other when the holes and tunnels are aligned, but the platform may also be displaced, causing misalignment of its holes with all six tunnels, and hence "trapping" the rods in whichever half of their tunnels they happen to be.

A number of these units would be assembled to display one line of Braille at a time. Installed side-by-side, the units would be connected by joining all the "dot no. 1" tunnels to a common pneumatic line, all the "dot no. 2" tunnels to another common pneumatic line, all the "dot no. 3" tunnels to a third common pneumatic line, etc. There would be six pneumatic lines to power the device, one for each of the positions of the Braille cell. A unit would be "set" by the simultaneous occurrence of two events: applying air pressure to the desired combination of cell positions, and causing the platform holes to be aligned with the tunnels at the desired unit. All the other units would have their tunnels blocked so that only the pressurized rods in the selected unit would raise to the top of their tunnels where their rounded tops would protrude above the unit's surface, displaying a Braille character. Returning the platform to its misaligned position would "hold" the rods there. This technique of simultaneously pressurizing pneumatic lines and moving the locking platform of the modules is similar in principle to the so-called "coincident current matrix" used in addressing computer memories.

The second project employing a dynamic Braille display is that under development by David Mick (20) in Albuquerque. Mick has devised a Braille encoder which promises to be a simple and inexpensive means for converting electrical signals from any standard code into the desired Braille cell configurations. The device employs a coding wheel about the size of a 45 r.p.m. disc, transparent except for opaque spots arranged along radii of the disc which perform the actual encoding. A separate disc may be used for each desired conversion. For instance, to convert from the widely used telecommunication standard A.S.C.I.I. code to a given set of Braille cells, one would use a given disc. To convert from A.S.C.I.I. to another arrangement of the Braille cells, one would simply use a different disc. Similarly, to convert from some other telecommunication code, such as that employed by a specific manufacturer, a new disc would be required. The principle of operation is identical for all the discs; changing from one to another is a very simple matter.

If one imagines a series of concentric circles on the disc, it is possible to describe the operation of the Mick device. One ring, the innermost, has only a single opaque spot. A photocell senses its passage once on each revolution of the disc. This ring provides a timing pulse to operate related equipment. Another ring, the outermost, contains evenly spaced opaque spots around its circumference, one spot for each possible input code. That is, if the incoming code has 128 possible elements, such as the A.S.C.I.I., there would be 128 evenly spaced spots around the outermost ring. Each spot defines a radius on the disc, and arranged along each radius are additional opaque spots which correspond to a given member of the code. The opaque spots are strung along the various radii like beads on a string. Photocells sense the passage of these spots, and when the spot pattern "matches" the incoming code pattern, the unit comes into action. It has found a code. It looks in the area of the disc between two of the evenly spaced radii, where another pattern of opaque spots has been placed, and this pattern generates the Braille cell configuration that has been assigned to the particular code that has been matched. Photocells convert this output pattern into signals which set miniature solenoids, and these protrude their tiny armatures above a flat surface to produce the actual Braille character.

The actual Braille cell displayed by the Mick device is a single cell formed by the tips of solenoid armatures which are set and released in accordance with the information obtained from the coding wheel. Consequently, the user simply touches the Braille cell and it changes dynamically under his fingertip in step with the code being "received" by the device. There are as yet no data available on possible reading rates, or other perceptual aspects of this device, and it is too early to determine how useful it will be.

The third impermanent Braille project to be described here is presently underway at the University of Kansas. Michael Shonyo (25) is designing a Braille keyboard which has both a passive and an active mode so that the display of Braille will be achieved by a mechanical movement of the keys. This project is based upon the notion that the size, shape and organization of the standard Braille cells are characteristics derived from years of experience in the embossing of Braille on paper. Every device familiar to the writer, including the Blanco belt, the Argonne unit, Southerland's modular cell and the Mick encoding package, all adhere to these characteristics without providing convincing reasons. It has been noted that readers of Braille are also highly skilled at the production of Braille by means of the ordinary seven key Brailler keyboard. It is a distinct possibility, therefore, that to passively rest one's fingers against active keys grouped in the familiar pattern of the Brailler keyboard would constitute a mode of information display highly compatible with the skills of Braille readers. The Shonyo device is under development to explore the characteristics of such a novel form of "Braille" reading and to determine if this dynamic keyboard concept has merits in the display section of reading machines.

The growth in popularity of computer programming as a career choice among qualified blind persons is having a definite effect on the design of advanced communication aids (24). The blind programmer competes with his sighted co-workers with relatively less disadvantage in this field than in many others. The computer itself is employed to assist in the information or communication difficulties stemming from blindness. As the use of "time-sharing" becomes more widespread, however, communication problems of a new variety are encountered.

When his place of work is the same as the location of the computer, the blind programmer can very often obtain output from the high-speed printer directly in Braille by inserting elastic cushioning and programming the machine to print patterns of periods and blanks. Printing periods into paper so cushioned is very often adequate to supply the blind programmer with readable Braille. When his place of work is located away from the location of the computer, however, it is often necessary to communicate with the machine over telecommunication lines, employing a remote terminal with a keyboard and a typewriter-like printer for input and output. Such remote terminals may be serviced by a central computer on a rotating basis so that dozens of users may simultaneously be using a single computer. Each is unaware of the activities of the others. This type of time-sharing has been compared to the way in which airline passengers pool their needs and share a single large commercial airliner rather than each chartering a smaller plane to make an airplane trip.

The terminal equipment used for time-shared computers is not so easy to modify for Braille printing as is the high-speed line-printer. Furthermore, printing equipment which does not operate by hammers striking paper also presents problems for the modification to print Braille. Some printers exist and others are under development which "print" by depositing ink on paper by an electrostatic charge, or by a spraying technique. The increased use of cathode-ray tubes for displays resembling television screens renders Braille printing a major, rather than a minor, modification.

Four Devices Shown at 1969 Cleveland Conference

In Cleveland, Ohio, a conference was held in October, 1969, (23) at which four devices were exhibited that provide the blind programmer with Braille output at a remote computer terminal. The first of these was the M.I.T. High-Speed Embosser (11) which has been under development for a number of years. This device embosses Braille characters on fan-folded, sprocket-fed paper of regulation weights, with 42 cells per line and 25 lines per page. It is designed to emboss as many as 16 characters per second, which is sufficient to keep pace with many of today's data transmission rates. In operation, the M.I.T. Embosser is used to supplement a keyboard and printer terminal. The user enters his information on the keyboard. It is simultaneously printed in ordinary form and embossed into Braille by the associated Embosser. When the computer sends information to the terminal, standard printing occurs and a duplicate in Braille is produced simultaneously. Remote terminals supplemented with this device would present no communication difficulties to the blind programmer, and in addition, substantial advantages would be realized for other groups of blind persons. Schools so equipped could provide "instant Braille" in the classroom for instructional materials for blind students.

The other three devices (23) exhibited in Cleveland provided the blind operator of a remote terminal with Braille embossed into a paper strip. Each of the devices employed an electronics "package" to perform a code substitution so that the code transmitted to and from the computer could be changed into that required to produce the embossed Braille cell. The differences among these three devices were only minor ones, except that two of the schemes embossed the Braille paper strip at the cost of dismantling the terminal's normal paper tape punching capability, while one of them preserved this facility intact. None of the three designers argued that Braille was easy to read when embossed in a strip of paper, but the convenience to programmers and the technical simplicity of such schemes comprised rather compelling arguments for their usefulness.

Present Discrepancy Between Research Refinement and Product Development

On the basis of the projects reviewed in this paper, there seems to be little doubt that the application of technology to some of the communication problems of the blind continues to be prominent in contemporary rehabilitation research. As our technology expands and becomes increasingly refined, solutions become possible which once were not so, or become efficient where once they were not feasible. When one distinguishes between applied research on communication aids on the one hand and product development and distribution on the other, it is immediately clear that the former is proceeding very rapidly in the area of blindness, and that the latter is not. It appears that the brief life expectancy of attractive devices is partly accountable for the discrepancy between research refinement and product development. Each refinement has profound implications for such practical considerations as size, cost, power requirements, reliability of operation, usefulness of the task performed, and acceptability by the user. It seems to this writer to be in the best interest of us all, users and providers alike, to be a bit cautious before rushing into the production and distribution of a communication aid for the blind, so that we can be confident that we have explored all available alternatives and have some protection against immediate obsolescence.

It seems to me to be clear that the needs of the blind for specific communication aids has caught the attention and stimulated the imagination of the scientific and technological community. It also seems clear that those needs have not aroused the corresponding level of activity among manufacturers and suppliers. There is a definite and growing consumer market among the blind for communication aids, but it is not of such a magnitude that manufacturers will compete for it right now. I believe that the time will come when the problem of supplying devices in quantity will appear attractive to some manufacturers. Until that time comes, the exploration of various alternative designs and techniques will continue through the efforts of groups such as those referred to in this paper. The result will be that poor designs and half solutions will be discarded, not by proving economically risky, but by yielding to better solutions in the laboratory. Our responsibility as workers for the blind is to keep ourselves informed of the on-going activities and make our views known at the times and in the places where they will be most helpful in guiding the development.

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THE BEST OF THE PAST FOR THE PRESENT : NUMBER SEVEN OF A SERIES OF REPRINTS

OPINIONS OF GREAT CRITICS OF WORK FOR THE BLIND FROM HOMER TO TEN BROEK

WITH AN INTRODUCTION, NOTES AND COMMENTS

BY

WARREN BLEDSOE

PROLOGUE

A CAPSULE FOR DIGESTING CRITICISM

Not a panacea, but at least a palliative to aid in the digestion of criticism is an equal mixture of opinion on both sides. A classic example of its kind is found in two letters concerning the same article by two distinguished professors of ophthalmology, each of whom also served as editors of leading journals. To make constructive use of the suggestion of the first letter, the article was submitted to the editor of the Journal of the American Medical Association, who printed it without altering a jot or tittle, in which form it prompted the second letter.

"I beg to acknowledge receipt of a copy of a paper entitled__________. I am in deep sympathy with the __________ Program of__________. These accomplishments, however, are certainly worthy of a better expression than that embodied in the manuscript before me. I read the first five pages with considerable difficulty, it being necessary to reread sentence after sentence in order to ascertain what was meant. On the sixth page I reedited it in a somewhat hurried fashion. You have asked my personal and candid opinion. I should suggest that this manuscript be referred to someone accustomed to editing medical and scientific papers, in order that it might be changed in a manner which would facilitate its assimilation. When this is done I shall be glad to continue reading from page six to the end."

"I was away all summer and so missed reading the fine article by you and Dr.__________ in American Medical Journal of__________, until today. I hasten to write you my congratulations in presenting such a difficult subject so lucidly. It is an excellent review of what you are trying to do out there, with such remarkable success. I am sure all physicians who have read it are given much food for thought, and I do hope that lay bodies taking care of clients will be influenced by it also."

OPINIONS OF GREAT CRITICS OF WORK FOR THE BLIND

Introduction

Love of great critics of our work is one of the most significant marks of maturity, but it depends on a modicum of critic's love for what he is criticizing. So long as the critic tells us our faults, no matter how shrilly, he runs the chance that we may recognize some truth in what he says and profit by it. Those who speak sharply may also speak falsely, but the victim generally knows better than they what is fiction, however cleverly devised, and can, if he will make use of what is truth. And he knows as long as the railer rails that he at least has a horrible fascination for the critic, which is to some extent a relict of love, like Xantippe's love for Socrates. It is only when the railing stops altogether that we know we are absolutely condemned. To knowing folk nothing is so appalling as is the erstwhile critic's silence, which says more loudly than words could, "Go your mistaken way." Notwithstanding all this, workers for the blind have a problem, decade after decade, in attracting the attention of critics who approach the whole subject not simply, but somewhat naively, not realizing that certain strictures, which to them seem little short of divine revelations, have long been in the literature, and acted upon with more or less success. Indeed the field has been repeatedly cut up by experts. Workers for the blind tend to be connoisseurs of critics; wherefore this gathering of some classic opinions from the past is offered to let newly arriving critics know what their competition is in the literature. It seems unlikely that this will take away a truly competent critic's appetite for the fray, and it may offer him what Shaw called the shoulders of the past to stand upon, and thus get a wider view. Samples only will be quoted, without attempt to be comprehensive. The criteria of selection will be what is sufficiently recurrent to be plainly recognizable as a classic criticism, and what is sufficiently well expressed to give some insight into the point made.

ITEM # 1

"The Community Will Not Recognize My Individuality" — Homer and Other

The Encyclopedia Britannica, following the fashion of latter-day critics, writes of Homer's writings almost as though no life of Homer had ever been attributed to Herodotus. Rather is an epic poet deduced from the Iliad *and the* Odyssey, *whom the* Encyclopedia *calls* Homer *for want of a better name. And you get the impression that the* Encyclopedia *would like to say this author never existed because it is not possible to produce his birth certificate, death notice (Trojan papers please copy), contracts with publishers and critical reviews, written in stone.*

Still there is this large amount of epic poetry, much of it integrated beyond what is generally supposed to be within the competence of a committee — even with a muse for guidance. Moreover, scholarly minds once doubted that there had ever been a Troy; yet, *when amid their laughter, the uneducated business man Schliemann dug for a city where the* Iliad *said there was such a city, behold, there was indeed a city. And though it does not necessarily follow thereby that where Herodotus said there was a poet, there was indeed a poet, both the Greek love of truth and the poems themselves argue for a poet, whom there is no particular reason after all these years to call by another name. (There is an old spoof around universities that eccentric Professor So-and-So wrote a monograph proving that the* Iliad *was not written by Homer, but by another man of the same name.)*

Concerning this name Herodotus tells us that it was the word the Cumaens in their dialect called blind persons. This brief biography of "Homer", whether fact or legend, whether or not by Herodotus, has fascination for its awareness in any time of the ways of poets, the ways of talented blind people, and the ways of governments toward poets and blind people. Far back in time it tells of a blind person asking a democracy to give him help in doing the thing he knew how to do best, and the government refusing because it could not give the same help to all other blind people.

Herodotus says:

> When Melesigenes* arrived at Cumae, he frequented the assemblies of the elders, and there recited his verses. Admiring their beautiful structure, they fell into an esctacy of delight. Joyful at the reception his poems had prepared for him among the Cumaeans, and at the pleasure with which they had heard him, he one day proposed to them, that if the state would maintain him, he would make the city of Cumae very celebrated. His hearers approved of the proposition, and engaged him to present himself before the council, where they would support him with all their interest. Melesigenes, encouraged by their approbation, presented himself at the House of Assembly on an audience day, and addressing the person who had the office of presenting those who had any request to prefer, he begged to be allowed to enter. This officer did not neglect to present him the first opportunity that offered. Melesigenes, as soon as that ceremony was over, addressed the assembly regarding the proposition he had formerly made. His speech ended, he retired, in order that the representatives might deliberate on the answer necessary to give him.
>
> He that presented him, and all those representatives belonging to the Elders' Assembly, where he had recited, voted for him. It is said that one only opposed the measure, giving for his reasons, "that if they thought to feed *homers*, they would find themselves encumbered with useless folks." From this time the name of Homer, bestowed thus opprobriously on Melesigenes in consequence of his misfortune, was most generally used in speaking of him; for the Cumaeans, in their dialect, called blind persons *homers*. Strangers always used this name in discoursing of the poet.
>
> The Archon concluded with saying, "that it was impolitic to maintain the blind man." This caused the majority of the representatives to vote against the measure, the second time, and thus the Archon obtained more votes than opposers. The presenting officer communicated with Melesigenes on the subject, informing him of the progress of the debate, and of the decree. Deploring his ill fortune, he recited these verses:
>
> "To what sad fate has father Zeus destined me? I, who have been carefully educated at the feet of a beloved mother during the time that the people of

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*Melesigenes was the name Homer's mother gave him.

> Phriconis, skilful in taming horses, and breathing only war, raised the Eolian city, honourable Smyrna, on the borders of the ocean, by the behest of Zeus, that city traversed by the sacred waters of Meles. The illustrious daughters of Zeus, on their departure from these places, wished to immortalize this sacred town (Cumae) by my verses; but, deaf to my voice, the brutish herd disdained my harmonious lays. No, it shall not continue so! whoever in blind folly heaped insults on my head, shall not escape unscathed. I will courageously endure the ills dealt out to me by the Deity. Tis over, I will no longer rest in Cumae. My feet burn to depart hence, and my panting heart urges me to seek a foreign clime, and there to dwell, however insignificant the place may be."
>
> On leaving Cumae for Phocaea he pronounced a malediction against the Cumaeans, to the following effect: "that there never might be born in Cumae a poet who could render it celebrated, and give it glory."

Some indication of the treatment Homer thought due him is found in the way he pictures the person of the Phaeacian singer, Demodocus in the following passage:

Now came the herald along, leading the much revered singer,
The Muse's beloved to whom both evil and good had been granted,
For she took the sight from his eyes but gave him the gift of sweet music
And Pantonous seats him in a chair bedizened with silver
In the very midst of the guests near the base of a stately column:
Hanging there on a nail is his harp, the heavenly sounding,
Up over the singers head, and he reaches his hand up to find it.
Before him the herald places a beautiful table with viands
And a full beaker of wine to drink whenever he wants it.

ITEM # 2

"You Kill Blind People With Kindness" — Dr. Thomas Blacklock-1774

Dr. Thomas Blacklock was an 18th Century blind scholar and poet of rare character and charm, whose social and intellectual gifts made him an intimate friend of David Hume and other prominent thinking people of the time, who by his example contributed to the slow-growing image of the blind person as a competent individual. In the Edinburgh Review, *November, 1774 he chose to make a case against the insufficiency of the demands made upon blind people by the persons surrounding them. Somewhat paradoxically he chose to write under the pseudonym of Demodocus, the poet whom Homer had pictured as a thoroughly pampered individual. Dr. Blacklock covered a number of problems blind people experience, some of which are happily extinct, or almost so, in the world we know. But he goes outside his century both forward and back in describing the difficulties blind people experience in demanding excellence of themselves, due to the disinclination of society to make difficulties for blind people in the small things of life, thus conspiring in favor of mediocrity, or worse, ineptitude:*

Hence it unluckily happens, that blind men, who, in common life, are too often regarded as raree-shews, when they do not gratify the extravagant expectations of their

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**The Greek Classics*, Vincent Park & Co., 1909.

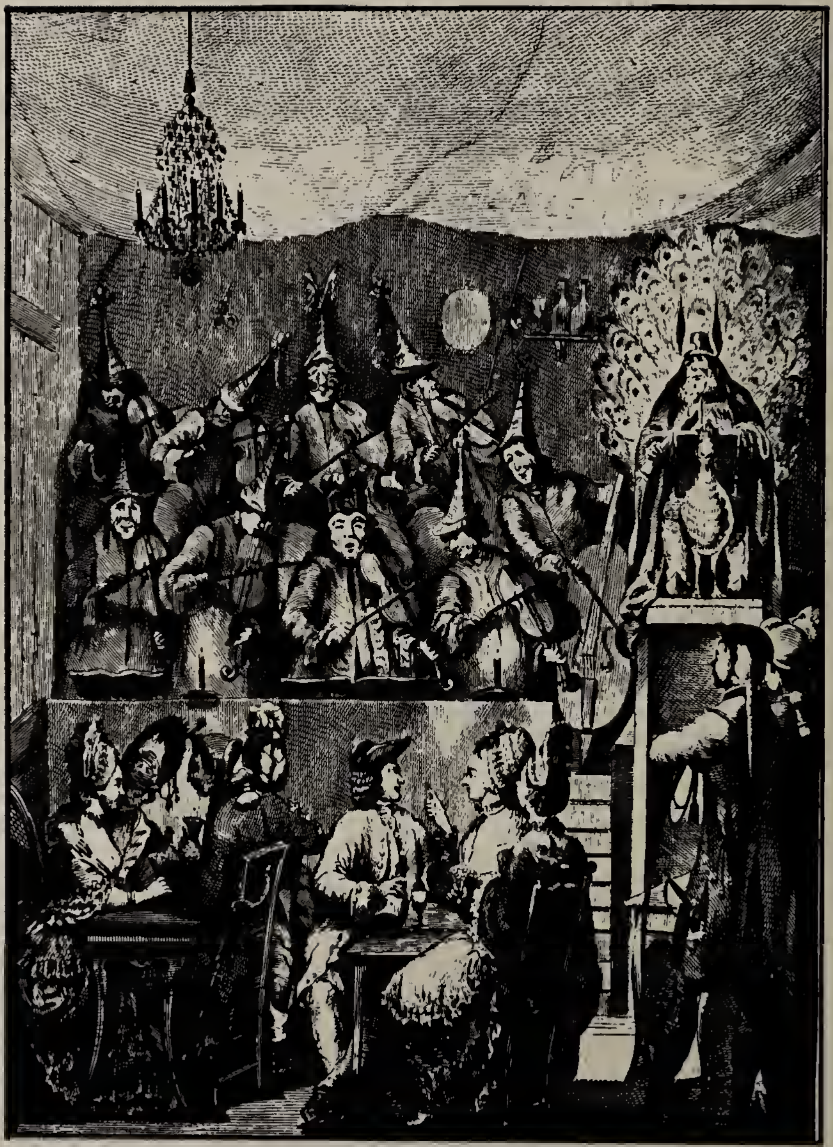
spectators, too frequently sink in the general opinion, and appear much less considerable and meritorious than they really are. This general diffidence at once deprives them both of opportunity and spirit to exert themselves, and they descend, at last, to that degree of insignificance in which the public estimate has fixed them. From the original dawnings, therefore, of reason and spirit, the parents and tutors of the blind ought to inculcate this maxim, that it is their indispensable duty to excel; and that it is absolutely in their power to attain a high degree of eminence. To impress this notion on their minds, the first objects presented to their observation, and the first methods of improvement applied to their understanding, ought, with no great difficulty, to be comprehensible by those internal powers and external senses which they possess. Not that I would render improvement quite easy to them, if such a plan were possible. For all difficulties which are not really or apparently insuperable heighten the charms, or enhance the value of those acquisitions which they seem to retard. But, care should be taken that these difficulties be not magnified or exaggerated by imagination; for it has before been mentioned, that the blind have a painful sense of their own incapacity, and consequently a strong propensity to despair continually awake in their minds. For this reason, as well as to render them more independent, parents and relations ought never to be too ready in offering their assistance to the blind in any office which they can perform, or in any acquisition which they can procure for themselves, whether they are prompted by amusement or necessity. Let a blind boy be permitted to walk through the neighborhood without a guide, not only though he should run some hazard, but even though he should suffer some pain.

If he has a mechanical turn, let him not be denied the use of edge-tools; for it is better that he should lose a little blood, or even break a bone, than be perpetually confined to the same place, debilitated in his frame and depressed in his mind. Such a being can have no employment but to feel his own weakness and become his own tormentor, or to transfer to others all the malignity and peevishness arising from the natural, adventitious, or imaginary evils which he feels. Scars, fractures, and dislocations in his body are trivial misfortunes compared with imbecility, timidity, or fretfulness of mind. Besides the sensible and dreadful effects which inactivity must have in relaxing the nerves, and consequently in depressing the spirits, nothing can be more productive of jealousy, envy, peevishness, and every passion that corrodes the soul to agony, than a painful impression of dependence on others, and of insufficiency for our own happiness. This impression, which, even in his most improved state, will be too deeply felt by every blind man, is redoubled by that utter incapacity of action which must result from the officious humanity of those who would anticipate or supply all his wants, who would prevent all his motions, who would do or procure everything for him without his own interposition. It is the course of nature that blind people should survive their parents; or, it may happen that they should survive those who, by the ties of blood or nature, are more immediately interested in their happiness. When, therefore, they fall into the hands of the world in general, such exigencies as they themselves cannot redress, will be coldly and languidly supplied by others. Their expectations will be high and frequent, their disappointments many and sensible. Their petitions will often be refused, seldom fully gratified, and even when granted, the concession will often be so ungraceful as to render its want infinitely more tolerable than its fruition. For all these reasons, I repeat it once more (it can never be too frequently reiterated), that, in the formation of a blind man, it is infinitely better to direct than supersede his own exertions. From the time that he can move and feel let him be taught to supply his own exigencies, to dress and feed himself, to run from place to place either for exercise or in pursuit of his own toys or necessaries.

In these excursions, however, it will be highly proper for his parent or tutor to superintend his motions at a distance, without seeming to watch over him. A vigilance too apparent may impress him with a notion that malignity, or some other selfish motive, may have produced it. When dangers are obvious and great, such as we incur by rivers, precipices, etc., those who are entrusted with the blind will find it neither necessary nor expedient to make their vigilance a secret. They ought then to acquaint their pupil that they are present with him, and to interpose for his preservation whenever his temerity renders it necessary. But objects of a nature less noxious, which may give him some pain, without any permanent injury or mutilation, may, with design, be thrown in his way; providing, however, that this design be always industriously concealed. For, his own experience of their bad effects will be an infinitely more eloquent and sensible monitor than the abstract and frigid councils of any adviser whatever.*

**Literature on the Blind*, Wm. Harris & Co., 1895.

THE CONCERT OF THE BLIND



The "concert" given by blind men at the St. Ovide's Fair in Paris in 1771. This humiliating scene so revolted Valentin Haüy that he decided to devote his life to helping the blind. He initiated the art of embossing books with raised lettering which the blind could be taught to read, started the earliest library for the blind and created in Paris the world's first school for blind children, which still exists as the National Institution of the Young Blind. In time he was to become known throughout Europe as the Father and Apostle of the Blind.

As he was strolling through the streets of Paris one September day in 1771, a young Frenchman, Valentin Haüy was attracted by the sight of a crowd hooting and laughing in front of a large booth at the St Ovide's Fair, then being held in the Place Louis-le-Grand (now Place Vendôme). On a platform raised above the tables of this open-air café, ten blind men scraped their bows in pantomime, drawing shattering discord from violins, cellos, basses and viols.

They stared blankly at sheet music turned on the racks so that the notes were visible to the jeering audience. Their sightless eyes were ringed with huge pasteboard spectacles devoid of glass. They wore grotesque robes, with dunces' caps and asses' ears. Every day for two months they had scraped, fiddled and kept up a monotonous accompanying chant, while their audience jeered, banged tankards on the tables and screeched bawdy jokes.

Haüy viewed the scene with a mixture of pity and horror and, years later, recalling this significant moment in his life, he wrote:

"Why was it that a scene so dishonourable to humanity did not perish in the instant of its conception? Why was it that poetry and picture should lend their divine ministration to the publication of this atrocity Ah! It was impossible that the scene before my eyes, bringing deep sorrow to my heart, should not inspire and arouse my soul.

"Yes," I said to myself, seized by an exalted enthusiasm, "I will substitute the truth for this mockery. I will make the blind read. I will put in their hands volumes printed by themselves. They will trace the true characters and will read their own writing, and they will be able to give harmonious concerts. Yes, atrocious malinger, whoever thou art, the ears of the ass with which thou would'st degrade the head of misfortune, shall be attached to thine own."

ITEM # 3

"The Altruism Is Ineptly Administered" — Howe

The undoubted professional ancestor of modern workers for the blind was Howe, whose extraordinary mind has swung across generation gaps repeatedly with an agility similar to that of Tarzan, the ape-man, his classic "Batavia Address" having been the most popular item of BLINDNESS 1965, one hundred years after it was delivered. What Osler is to modern education, Howe is to education and rehabilitation of the blind, affecting the lives of those who have never heard of him. He is also somewhat analagous to the ghost of Freud in psychiatry. He was capable of sublime utterance, and several of his opinions in a vein of high seriousness will be quoted. He was also capable of being waspish and even shrill. Thus in the Perkins annual report 1871 after a lifetime of reflection he used a sharp scalpel to lay bare the weaknesses of the beloved Valentine Haüy, who, during 40 years of European cataclysm managed to survive as a tutor of status figures on the capability of the blind:

> If the history of this first public institution for the education of the blind had been known by founders of similar institutions in this country, some mistakes and losses might have been avoided. It shows clearly that the most generous impulses, unguided by reason, may lead to measures more harmful than helpful to the objects of our sympathy; and that no amount of genius and zeal can atone for lack of common sense. Valentin Haüy had genius, generosity and zeal, but he lacked common sense; and utterly failed as an administrator of affairs . . . .
>
> His enthusiasm and zeal so hastened the progress of his little school, that in the very same year of its founding he exhibited them before Louis XVI and his court.
>
> They made a deep impression upon all hearts. Their reading excited wonder, admiration and undue hope. The school became one of the lions of Paris, and its master a favorite of the court. He was made interpreter to the king, and to the navy department for the English, German, and Dutch languages; royal interpreter and professor of ancient inscriptions; and finally, secretary to the King.
>
> In the same year, he dedicated to his royal master a book called "Essays Upon the Education of the Blind." This was printed in relief, nominally by the blind boys at the new school, but really by Clousier, a printer; the boys, perhaps, pulling the press.
>
> This book (which is of little value) was translated into English by Blacklock, the blind poet, in 1795.
>
> The school seems to have been badly directed. In 1790 it was joined to that for the deaf mutes; and the two classes occupied the convent of the Celestins.
>
> The union seems to have been unwise and unblessed. The managers quarrelled; and conducted matters so badly, that the existence of both schools was

endangered. At last the National Assembly decreed, July 2, 1791, that the expenses of the school should be assumed by the state, and that one pupil of each class should be received from each of the eighty departments of France. But the pecuniary relief did not mend matters in the school. The quarrels of the managers were taken up by the pupils; and the blind and the mutes were at loggerheads. The discreditable condition of things was terminated after the Revolution of 9th Thermidor, Anno II, by a decree of the National Convention, July 27, 1794, which separated the disputants; and placed the deaf mutes in Seminary of Saint Magloire, and the blind in Saint Catherine House, Rue des Lombards.

But Haüy's intemperate zeal made matters still worse at the school for the blind. Having discarded what were styled the mummeries of the Roman Church, the Theophilanthropes set up more ridiculous mummeries of their own; and Haüy having become a sort of sub-priest of Revellière Lepauz, used to make his blind pupils take part in the miscalled religious ceremonies, by chanting.

Earnestly desiring to make his pupils happy, he foolishly thought to do so by allowing some of them to marry, and to bring their brides to live in the institution. The consequences may easily be imagined.

Although an Abbé, he had married a suitable woman; but upon her death, he took to wife, and to the institution, a common market girl, without manners or culture. Under such a matron, the confusion in the household became "worse confounded"; and its chief and ostensible object, the "instruction of the blind," was not attained. Chaptel, Minister of the Interior, recommended that it be transferred to the old establishment of the Quinze Vingts, an asylum for fifteen-scores (300) blind soldiers. This step was probably taken to get rid of Haüy, who had proved incompetent to direct the establishment which he had created. He was pensioned; and his unfortunate pupils were utterly demoralized by being mingled up with the inmates of the Quinze Vingts, all of whom were paupers, and some of whom were beggars.

After an eclipse of fourteen years, the school was rescued from its demoralizing relations, and removed to a house, Rue St. Victoire, where it revived under the care of Dr. Guillié. His successor, Dr. Dufau, completely regenerated it; obtained for it liberal patronage of the government; and made it the leading establishment of the kind upon the Continent.

Haüy attempted, upon the strength of his reputation, to establish a boarding school for blind children. It was dignified with the name of Musée des Aveugles; but it had no success, and lived only about two years.

He then went to St. Petersburg, and commenced, under royal patronage, the establishment of a school for the blind. He had partial success in awakening public interest, but he failed in the management of his school, for the same reasons as in Paris. He was, however, treated with great respect; and received the decoration of the order of St. Vladimir. He then tried his hand in Berlin, but although the institution which he founded took root, and still flourishes, his connection with it was soon ended; and he returned to Paris, to die a dependent upon his less brilliant but abler brother.

> The fruit-seeds which Haüy sowed have multiplied, until all the principal countries of Europe have their special institutions for the instruction of the blind in the rudiments of learning, in music and in mechanical arts.

It is remarkable that Howe, the critic, shows so little apprehension of the all important consideration – Haüy was struggling to keep alive a humanitarian idea – that a blind child could be educated – in the maeltrom of the French Revolution. One need not even have read Carlyle; such books as "The Tale of Two Cities" and Emil Ludwig's "Napoleon" suffice to make the reader aware that to talk of efficient administration through the French Revolution, the Terror, the Directory, the Consular Interregnum, the First Empire, and the Restoration is a fine example of nonsense coming from a great man.

Howe gives an impression that to the end of his day he thought all this talk about the French Revolution having been an upsetting time was greatly exaggerated. And it is a little easier to understand why, after extracting him from a Prussian jail, Lafayette tactfully suggested that Howe come back to America, and protect liberty here.

ITEM # 4

"You're Working in an Ivory Tower" – William Prescott

In view of Howe's foregoing devastation of Haüy and praise of what the Bourbon restoration produced, the paradoxes of criticism are revealed in a contemporary dissection (1833) of the institution Howe lauded by no less a person than William Prescott, the noted historian, bearing also a special qualification – the timeless union card of blindness:

L'Institution des Jeunes Aveugles (formerly styled *Les Aveugles Travailleurs*), is sometimes confounded with the Hospital of the *Quinze Vingt*: but this is a very different establishment, and one of the proudest monuments of humanity of which France can boast; it was founded by St. Louis on his return from the East, for such of his soldiers as had lost their sight; as its name imports, it receives and supports *fifteen score* or three hundred adult blind persons: but no attempt is made to educate them or administer other solace than that of food, raiment, and a comfortable home.

The Institution for the young blind, however, is intended solely for their education, and none but children between ten and fourteen years of age are admitted; there are one hundred of these interesting beings in the establishment, and a more delightful spectacle cannot be imagined than a view of its interior. You see not there the listless, helpless blind man dozing away his days in a chimney nook, or groping his uncertain way about the house; but you hear the hum of busy voices, – you see the workshops filled with active boys, learning their trades from others as blind as themselves, – you see the school-rooms crowded with eager listeners taught by blind teachers. When they take their books, you see the awakened intellect gleam from their smiling faces, and as they pass their fingers rapidly over the leaves, their varying countenances bespeak the varying emotions which the words of the author awaken: – when the bell rings they start away to the play ground, – run along the alleys at full speed, – chase, overtake, and tumble each other about, – and shout, and laugh, and caper round with all the careless heartfelt glee of boyhood. But a richer treat, and better sport awaits them, – the bell again strikes, – and away they all hurry to the hall of music; each one brings his instrument, and takes his place; – they are all there – the soft flute, and the shrill fife, – the hautboy and horn – the cymbal and drum, with clarinet, viol, and violin; – and now they roll forth their volume of sweet sounds, and the singers, treble, bass, and tenor, striking in with exact harmony, swell it into one loud hymn of gratitude and joy, which are displayed in the rapturous thrill of their voices and painted in the glowing enthusiasm of their animated countenances.

Such is the scene which presents itself to the delighted visitant of the Parisian Institution for the young blind; and he comes away with a feeling of unqualified admiration for that spirit of humanity which, guided by science, is there accomplishing so much in defiance of the apparently insurmountable obstacles of nature. But he who goes again, and again, and examines not only the foliage and the flower, but waits for the season of the fruit, finds his admiration dwindling into doubt; and feels at last the painful conviction that all this display is of comparatively little good, and that not one half the benefit that might be derived from such splendid means ever accrues to the unfortunate inmates. He asks the question, How many of those who leave the institution at the expiration of their time are enabled to gain their own livelihood? – and is startled at the answer of "not one in twenty." What then? Must they relapse into their original inanition? Must they take their places by the highway, and beg at the corner of the streets, with the pangs of dependence sharpened to torture by increased sensibility? Alas! it is almost as bad as this with many. And how is it proposed to remedy this evil? how do they hope to prevent the glimmering which the blind here catch of happiness from being followed by a future doubly dark and wretched? Why, instead of looking for the cause of the evil, instead of suspecting the system, and correcting that, they propose to establish a place for the permanent reception and support of those who come out from the institution, and who cannot provide for themselves. This is very like educating men for the almshouse.

We were painfully affected by this conclusion, which seemed like the destruction of one of the fairest fabrics that ever blessed the dream of the philanthropist; and were led to examine again and again the system in detail, until we discovered, or thought we discovered, most apparent causes for the meagre harvest of good, which is reaped from such a promising soil. We looked in vain for the improvements which ought to have been made in the apparatus of Haüy, during the thirty years which had elapsed since his death; – we looked in vain, for none existed. A narrow and illiberal jealousy; an attempt at secrecy and reserve met our endeavours to examine the nature of this apparatus: and when we inquired whether some obvious and simple changes might not be made for the better, we were repelled by the sapient and reproving answer, that surely, if any improvements could have been made, such great and good men as the Abbé Haüy and his successors would not have overlooked them.*

ITEM # 5

"Charitable Tyranny" . . . "Segregation of the Blind" – Howe

Howe's prime writings were stunning developments along the "Ivory Tower" line, and he spun them out in several opinions which are classics on the subject of blindness:

One was delivered in his 1849 report of the Perkins School:

It is a common error in the administration of public charitable institutions to treat the inmates like children, though they be adults, and to govern them too much . . . . The

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**Literature on the Blind*, Wm. Harris, 1895.

inmates, therefore, are sometimes the victims of a charitable tyranny, and are subjected to an absolute despotism of benevolence. They must do everything in a particular way, and according to the pleasure of their governors for the time being, who, with well-meant but ill-judged officiousness, wish to do even their thinking for them. They must lie down, get up, sit, stand, march, eat, and drink by rule and measure. Even their devotions are of a prescribed form, and their communion with their Maker must be at times and in words gravely decided upon by the committee; they must say grace over viands, though they may happen to be unsavory to them, and return thanks for a 'bountiful repast,' though they may feel not half filled. The consequence of all this is apt to be a clannish spirit, a defiant disposition, restlessness and discontent. The seeds of charity do not bring forth the harvest of gratitude, and the fault is often attributed to the ungrateful hearts in which they were sown, whereas perhaps it is partly because they were not planted with discerning love.

I do most earnestly hope that we may not lessen the happiness of the blind in this way; but that, in enlarging our work department and putting it upon a permanent basis, we may adopt the system which will give them the greatest possible personal independence that is consistent with their true interests. This will be most conformable to the genius of our country and of our times.

We should, I think, require the workmen and women merely to maintain a good moral deportment, and to be subject to the discipline of the institution only during the hours of work.

It may be objected to this that some blind persons, who are too feeble in purpose and in mind for self-guidance, will be unable to hold their place in the establishment; but this will have the effect to raise the tone and character of the place.

Smaller objections may be made by some. The inmates may not always go to bed betimes; they may smoke tobacco; they may read improper books; they may go to sleep, or to walk in the fields, of a Sabbath afternoon, instead of going to church; they may, in various ways, fall into undesirable habits, which could be prevented by the strict discipline of an institution. But to argue from this the necessity of a discipline which deprives them of free moral agency would carry us far back into the bygone doctrines of despotism – the real evils of which, whether upon a large scale or a small one, must ever be greater than the evils incident to freedom.*

Perhaps even more remarkable than the opinion just quoted in piercing the future was Howe's 1871 letter to the Second Convention of American Instructors of the Blind. After some outmoded rhetoric, (outmoded, but still not ridiculous), in which Howe pays tribute to mankind's "beautiful invention" language, he goes on to say:

.... But, although the blind by reason of speech have an immeasurable advantage over the deaf mutes in capacity for mental, for social and even for moral culture, and for the enjoyment of that happiness which is "our being's end and aim," still the tendency of their physical peculiarity, viewed in a large sense, is unfavorable to the highest mental and moral development, and the aim of the educator should ever be to lessen its effects.

It is in view of this tendency, that everything which favors social sequestration and segregation, or any distinctive pecularities, as compared with other people, is to be carefully avoided in the education of the blind. It is useless to slur over this matter as being merely theoretical; or if true, as being unimportant. To the educator nothing should be unimportant which affects the harmonious development of character, and the perfection of human relations. The very fact of the existence of special institutions for the blind, is proof of the unfavorable tendency of the infirmity, for they are intended to counteract or lessen its effects. So long as blind children are scattered widely in the community, they are considered as rare and exceptional cases. They are regarded merely as persons marked by one physical peculiarity. In advanced society they are fused in the mass of its members. Without the use of special influences they are made to conform to the general condition, without that condition being changed to meet theirs. This is especially the case wherever the child of royal, noble or rich persons is blind. Prince Oscar, of Sweden, was not educated as a blind boy, but only as a boy who could not see. Were our society as highly cultivated as it will be, blindness would be a better title to consideration than even royal birth.

**Outlook for the Blind*, April, 1908.

But when we gather blind children from all parts of the State, to be educated together in a special institution, we make more saliant their points of difference from their fellows; and unless we are very careful, we increase that difference. We must beware, lest we sow some tares with our wheat; lest we begin a process of social segregation; lest we sequestrate them socially. We must not form them into a class. We must not create a spirit of caste. We must not lessen the force of their relations with ordinary society, and encourage the growth of relations founded on community of physical condition. Even the supposed necessity for holding this convention, shows the truth of the principle I have set forth. The great advantages which may flow from it, will be lessened by the fact that it countenances the idea that there is greater difference between those who see, and those who do not see, than really exists. It will do so at least in the public mind, and that in itself is disadvantageous.

I repeat, that the education of the blind should be, as near as may be, like that of the seeing. But teachers do not hold conventions to discuss the method for instructing children who have black hair, or children who are short, in contradistinction with tall ones; to do so, would be a step towards segregation, founded on physical peculiarities, and the world has seen too much of this.

With a view of lessening all differences between blind and seeing children, I would have the blind attend the common schools in all cases where it is feasible. I am convinced that it is feasible in some cases, and to a greater extent than at first appears. Depend upon it, one of the future reforms in education of the blind will be to send blind children to the common schools, to be taught with common children in all those branches not absolutely requiring visible illustrations, as spelling, pronunciation, grammar, arithmetic, vocal music and the like. We shall avail ourselves of the special institutions less, and the common schools more.

Doubtless, for certain important purposes, special institutions for the blind are necessary; and they will have persistent place in civilized society, until civilization is carried so far that congenital blindness, and like infirmities, shall become unknown, or, at least, as unfrequent as they are in the brute creation. Until that period, the public sympathy will be so easily awakened by any call in behalf of the blind, that there is more danger of special institutions being unduly multiplied, and the sphere of their work unduly extended, than that there will be too few of them, and that the sphere of their action will be too limited.

In my judgment, not more than from one hundred to one hundred and fifty blind children should be gathered into one institution or school. One such school will suffice for all who, in a population of two million, require special instruction.

Many who now enter the special institutions might, by a little effort, have been instructed in the common schools; others might be sent to the common school after remaining in the special institution a year, instead of remaining the full term of five or seven years. In the organization of the special institutions, regard should be had to the principle above mentioned. There should be at least a separate building for each sex, and as many more as may be, with reasonable regard to expense. The children should be divided into families, not more numerous than ordinary ones. All blind children, who have suitable homes (accessible) should board at home, and come as day scholars. A select number can be sent to ordinary schools in the neighborhood, to follow certain branches of study. Moreover, it would be well to board some pupils in suitable private families, when such can be found. I have tried both plans with gratifying results. Some of our advanced girls attended a neighboring school for young ladies, and the result was pleasant and profitable to all parties. The young ladies became interested in and attached to our pupils.

The special pupils must, however, be kept in a very small minority, otherwise they clan together, and defeat the object. Our maxim should be: carry the social relations of the young blind with ordinary society to the maximum; reduce their social relation among each other to the minimum. Cronyship of boys and girls grows into lasting friendship; and, other things being equal, a blind person had better have friends who see, than friends who do not see. But my letter would grow to a volume if I should indulge in further speculations.

ITEM #6

"I AM . . . INCLINED TO ATTRIBUTE VIRTUE" **Sir James Crichton-Browne**

The first words Howe uttered to the young Francis Campbell were, "How do you like my school?"

The reply was, "I do not like it."

This was the beginning of many years of discourse between them, but more than that of work and experiment. Some of this has been described by Magers in BLINDNESS 1966. *But the culmination of the mutual efforts of Howe and Campbell is best described in a finely worded document of constructive criticism by the noted neurologist, Chrichton-Browne. It was composed in 1908 in that era of rare hopes when Campbell had not merely the British Establishment taking counsel from him, both on the liberal and conservative side, but the old royal complex of Europa, members of which copied each other's patterns of philanthropy. As Crichton-Browne's essay was precise and authoritative, as well as positive, it deserves to be reproduced in full.*

THE EDUCATION OF THE BLIND[1]

By SIR JAMES CRICHTON-BROWNE, M.D., LL.D., F.R.S.

From my professional point of view I have always been chiefly interested in the prevention and cure of blindness, and in both of these I have seen marked advances in my own time. Thanks to that knowledge of asepsis and antisepsis which we owe to the illustrious Lord Lister, the film of blindness is now prevented from spreading over many eyes which, in former days, it must have darkened hopelessly; and, thanks to increased surgical skill of the most exquisite description, the curtain of blindness is now lifted from many eyes over which it has been drawn by accident or disease, eyes which in bygone times must have remained permanently curtained. And, happily, still further advances in the prevention and cure of blindness may be anticipated. The general employment by the humbler classes throughout the country of well-trained midwives, who have been specially taught to detect at once the purulent ophthalmia of infancy, so that medical aid may be procured; the education of our people in the laws of health and especially in the saving virtue of scrupulous cleanliness; the universal application of vaccination; the more stringent inspection of factories and workshops in this respect, and the progressive improvement of surgical technique will avert much of that eye slaughter that has hitherto gone on, and rescue many orbs that under existing conditions are doomed to obscuration. But however far prevention and cure may go, much blindness will remain. We have now 25,000 blind persons in England and Wales, and the blind, the irremediably blind, we shall have always with us. That "cunningest pattern of excelling nature," the organ of sight, must always continue to be liable to injury, the delicate tissues of which it is composed must always continue to be subject to degeneration and disease; and it is a question whether under the pressure of modern civilization, and the strain put upon it by small print, schooling, artificial lighting, and so on, the eye is not becoming more and more prone to premature failure, individually and hereditarily. However that may be, blindness is still distressingly prevalent, and is long likely to be so, and it is therefore an obligation of Christian charity and a public duty to provide, as far as need be, for those who are thus grievously afflicted, and to do what is possible to lighten their burden and brighten their lot. When prevention has proved futile and cure impossible, compensation steps in, and we have institutions, like this Royal Normal College, devoted to the circumvention of blindness, to the special education and training of those suffering from it, so that they may almost forget their infirmity and become, in spite of it, hopeful and helpful members of the community.

Circumventing Blindness

It has been demonstrated that blindness can be circumvented – I use the word advisedly – and that the blind, by special education (not merely elementary, but secondary and technical as well, and diligently carved out by expert teachers), can be lifted out of their blindness, be made contented and happy, and prepared for future usefulness and independence. In most civilized countries national provision has been made for the education of the blind, and it is only with us that humane and most necessary work has been left to private charity, and that is so simply, I believe, because private charity in this country has been so forward in the matter, and has, without state aid, evolved such a remarkable and successful institution as that which we are met to support this afternoon. I have been permitted to read the testimony that has been borne by official inspectors and by visitors during the last thirty-six years to the work of the Royal Normal College, and I can only say that it is quite abnormal in its unanimity of approval. Only enthusiasm – in the most chastened sense of the word – an ardent pursuit of a noble mission – could have raised this college to the pitch of efficiency it has reached, and maintained it at that pitch all these years. Dr. Campbell is an enthusiast, and, as genuine enthusiasm is one of the most contagious as well as beneficent of maladies, he has infected his whole staff and his pupils, too, and we have an institution that might well be haunted by shadows pervaded by sunshine, hope, and harmony. I know a good deal of institutions in which human defects and frailties are dealt with, and I can truly say that I have never seen one that has more triumphantly surmounted its difficulties than this one with which we are today concerned. You enter the Royal Normal College with a sense of sadness and pathetic interest, but that is soon dissipated as you find yourself in an atmosphere of cheerful activity and of artistic refinement. You witness groups of apparently happy beings, all but unconscious of their calamity, strengthening their bodies by games and exercises and athletic sports, nurturing their minds in wholesome education, and cultivating whatever special gifts they possess, emancipated from the bondage in which they were born or bred, and qualifying themselves to play a free and fruitful part in the world. The admirable feature in the operations of this college is that it is getting fine practical results, for, as I daresay you know, from eighty to ninety per cent of its graduates become self-supporting, and thus it is showing the way to all who are engaged in the education of the blind. On physiological grounds I am persuaded that it has adopted the best possible methods.

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[1] This speech was delivered at the annual meeting of the subscribers and donors of the Royal Normal College and Academy of Music for the Blind, held May 13, 1908, at Seaford House, Belgrave Square, London. The Rt. Hon. Lord Howard De Walden, the president of the college, was in the chair, and the speakers included the Rt. Hon. Viscount Selby, the Venerable Archdeacon Sinclair, D.D., of London, Sir William Mather, M.I.C.E., A. Bonar Law, M.P., and Dr. William H. Cummings.

A Psychological Aspect

There is, we now know, a special center for vision in the brain, a large area in its middle region in which are received and registered the stimuli brought to it by the optic nerve, and derived from the infinitely varied and supremely important impressions that are made on that nervous expansion, the retina of the eye. Under ordinary circumstances, if we may so say, these visual impressions are the daily food of that center of vision. They nourish it, they promote its growth, they enable it to take its place and play its part in the mental economy. But when, from any cause, there is blindness, dating from birth, infancy, or early childhood, that center is deprived of its appropriate natural nourishment at its growth period, no supplies from the retina are conveyed to it, and it remains starved, stunted, and curtailed of fair proportion. No doubt it evolves to some extent, under hereditary impulses, drawing on the stores of nourishment that have been piled up by ancestors from the day when the eye was first formed and became precipient of light. But that is not enough, and the visual center that is cut off from visual impressions and that is left to itself must remain more or less dwarfed, and must fail to participate fully in the general life of the brain, that is to say, in its intellectual and emotional functions. I daresay Dr. Campbell will agree with me that the blind, congenitally so or from an early age, who have been left to themselves and have been untutored and untrained, do manifest a certain mental defect. If I mistake not, they are somewhat torpid, inert, awkward, timid, helpless, wanting in strength and decision of character and perseverance. But that is the blind left to themselves. And that is the crucial point, for when they are not left to themselves, but taken in hand, much may be done to compensate any defect for which the undernourished and undeveloped state of their visual center is responsible. That visual center is surrounded by other centers in the brain, those concerned in touch, taste, smell, hearing, general sensibility, and those presiding over the movements of all the voluntary muscles of the body, and with these centers the visual center is, or ought to be, in constant intercourse through innumerable lines of intercommunication, if these lines are only properly opened up. It is by taking advantage of these collateral lines of communication that the visual center in the brain of the blind may be aroused, supplied with nutriment, and made to grow. The main channel by which supplies are brought to it by the optic nerve is dammed up, but many other inlets remain open; and they may, by educational engineering, be utilized, widened, extended, multiplied, until the visual center has all that is requisite to enable it to shake off its lethargy, to expand and perform its associative, if not its primary function.

The Subtle Power of Music[1]

That is Dr. Campbell's method. That has been the secret of his success. Guided not by anatomical knowledge of the brain – for he anticipated that – but by deep introspection, keen observation, and quick sympathy, he has learned that, in order to effectually help the blind, you must attack their crippled visual center on all sides. His life has been spent in discovering new pathways of approach and admission to it, and in making fresh encroachments on it. He has linked with it all the motor centers, in manual and technical exercises, in games, sports, and athletics, and he has enlisted the other senses in its service, and mainly that great sense of hearing, the center for which in the brain lies in immediate juxtaposition to the center for vision. Of course all instructors of the blind have had to depend mainly on hearing for access to their minds, but Dr. Campbell has made use of that sense in unique ways, and has employed music as a physical stimulant and expander to a degree and with a perfection that no one before him has attempted and that no one after him can excel. To converse with the musical pupils or to study the letters of those who have passed through the college course and gone forth to work musically in the world is to discover an unexpected serenity of spirit, a sweet reasonableness of disposition. There are no repinings against the decrees of fate, no querulous complaints, no jealousy, no despondence. I have read, I suppose, about a hundred of these letters, and they one and all display a cheerful complacency and equanimity which could not, I think, be matched in the letters of a hundred similarly situated seeing beings. As far as I have been able to judge, the untrained blind do not exhibit the same placid mood in anything like the same degree, and I am inclined, therefore, to attribute ethical virtue to the thorough musical instruction given here. The music, as it were, enters the darkened chamber of the soul, and by some subtle transformation of energy makes it radiant and benign.*

ITEM #7

"YOUR 'PROGRESS' IS A SUBTLE FORM OF MURDER. . . ." Tadusu Yoshimoto

Rarely is criticism in the Western World couched in the subtleties of irony which tell us by implication what our errors are, thereby putting the burden on us. Out of Asia in 1908 came one such essay which does this. As delicate as a Japanese garden was a speech by Tadusu Yoshimoto, a blind gentleman from Lafcadio Hearn's Japan, speaking at an international conference in Manchester, England, to which the young Winston Churchill gave his name, but not his presence. With a foresight which was close to prophetic, Yoshimoto lays at the door of the Western World responsibility for the Pandora's box effect of the "open door" policy.

Yoshimoto began by giving a rather startling description of the living conditions of blind people in old Japan:

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[1] The large majority of the graduates earn their living by means of some form of music.

*Reprinted from *Outlook for the Blind*, July 1908.

In 858, Prince Hitoyasu, a son of the then Emperor, lost his sight, and many blind men of good families became his attendants. The Prince divided among them a part of his income, which afterwards was greatly augmented and given to all the blind in the country. In 886, in memory of the blind Prince, then dead, some blind officers were appointed to look after the welfare of the blind throughout the country. The chief officer called Sokengyo was appointed in Kyoto, then the capital of Japan, while others named Kengyo were allotted a province each.

In the beginning of the seventeenth century, the Government increased the tax which had long been levied throughout the country for the benefit of the blind, and protected them in every possible way. For example, in those days, when some disputes arose between creditor and debtor, the judges used to favour the debtors or the poorer side. But, whenever some blind persons were concerned in the dispute, they always judged in favour of them, whether they were creditors or debtors. Also, whenever blind persons were hurt in the street, the sighted persons who were concerned in the matter were made to pay for the damages, whether they were to be blamed or not.

As the blind were so well protected by their brethren who were favoured with sight, they could devote themselves to studying the arts, and many of them contributed not a little to the progress of music, massage, acupuncture, literature, and religion, and did much towards paying their debts to their benefactors, and many of them were much honoured by the public.

They were not only so well protected, but also treated with due respect. They were allowed to govern themselves both in administrative and judicial matters, and their chief officers were treated with as much honour as daimyos, or feudal lords, and were often received by the Shojun, the then ruler of Japan. Naturally, the blind were very thankful, and exerted themselves to become worthy of the favours they enjoyed. They exhorted each other always to be grateful to the gods, to improve their morality, and to love their pupils.

Yoshimoto then paid an apparently sincere tribute to the opening up of Japan to the Western World:

In the year 1870, a great change was made, the Government adopted European laws and methods, and abolished the posts of the blind officers, and did away altogether with the pensions for the blind. This change, cruel as it may appear, did no great harm to the blind, for most of them were able to support themselves by practising massage or teaching music, these professions being then monopolised by the blind, not by law, but by custom.

In 1878 a school was founded for the benefit of the blind and dumb by the late Mr. Furukawa, who, through love and unceasing toil, invented most ingenious methods and instruments for their education, which coincided in many respects with the most improved methods of education in Europe, though the European methods of education of the blind and dumb were then totally unknown in Japan. Thanks to his example many blind schools have been founded, and we have now 17 blind schools and 20 blind and dumb schools, not to mention some ordinary schools where blind children are being taught together with sighted children.

Lately some embossed books have been published, including the Japanese translation of Miss Helen Keller's "Story of My Life." There are now some magazines and a bi-weekly paper for the blind, also some lecture notes on advanced knowledge are now published for those who are unable to receive higher education. Some libraries for the blind have been established in Tokyo and other towns. Many books on the education of the blind have been published for sighted teachers. A committee, consisting of some well-known men in educational circles and officials of the Department of Education, has been organized to meet every month and study the education of the blind and dumb. An annual conference for teachers of the blind and dumb has been started. The Government, too, has been no less active in its efforts to improve the conditions of the blind.

Last year the Department of Education held a summer course of lectures on the education of the blind and dumb, inviting school teachers from all parts of the country to attend, and also advised all the training colleges to add new classes for instruction in the art of teaching the blind and dumb. At the same time the authorities gave prizes to the best teachers of the blind and dumb to reward as well as to encourage them in their praiseworthy effort. This year the Government authorised the Educational Department to use a considerable sum of money for the purpose of building a model college for the blind in Tokyo. The Department has also just commissioned a gentleman to study the most improved methods of the education of the blind in Europe and America.

Under the old regime, the blind were being helped very well. But they were being helped chiefly because they were considered objects of pity, and in consequence some of them were being spoiled and some were even being killed with kindness.

Under present conditions they are being helped to help themselves, and to become independent and useful members of society. However, a still newer state of things has set in lately.*

Then Yoshimoto delivers his ironical challenge, not merely to the Western World, but to the East, and to himself, his apprehension having far more in common with 1970 than 1908:

Since the opening of Japan to Western civilisation she has been making rapid progress in many directions, and the blind world is now being left far behind the sighted world. Besides, with the introduction of Western material, civilisation, our mode of living has been growing less simple, and competition more keen, with the result that some sighted people are now obliged to invade the occupations hitherto monopolised by the blind. For example, in Tokyo now one-half of the shampooers and massageurs are sighted people, although previously most of them were blind. In short, the conditions of the blind in Japan are gradually becoming like those of the blind in Europe.

Now, as such is the case, and the blind in Japan will have in the future to stand shoulder to shoulder with the sighted in the competition of living, as in the western countries, we shall have to give the blind all the advantages the sighted are enjoying. Firstly, we shall have to give them thorough education in the particular branches in which they excel – I mean those which they can do with their keen senses of hearing and touch, or with their intelligent minds, such as music, massage, religion, literature, or philosophy. And, we shall have to give them, whenever possible, more education than the sighted are receiving, in order to make up for the drawbacks caused by blindness, such as slowness in work, etc., and make them well capable of competing with the sighted in their work.

Next, we shall have to help to introduce the blind to society as capable people, in order to help them in getting rid of unjust prejudices concerning their ability, and in cases when such introductions have no influence in overcoming those prejudices, which have existed and will always exist, we shall have to help them materially in providing work for them.

**Report of The Triennial International Conference on the Blind,* Manchester, Endland, 1988.

Lastly, we shall have to pay great attention to their spiritual education, for the blind are often in unfortunate and trying surroundings, and are apt to be depressed or in despair. Good education can make up for the loss of sight to the blind, and suitable work can make them forget it, but nothing can, I believe, compensate the loss of physical light so well as spiritual light, not to mention the eternal benefit it will give them. In one word, we shall have to give them all equal advantages with the sighted, not more, and never less.

I do hope and I trust that the Japanese who helped the blind so well in the past will help them well in the future, too, and add the beautiful light of real civilisation to the Rising Sun to illumine the darkness of the blind world in the East, and return their sincerest gratitude to their western teachers.

ITEM #8

"IT TAKES THE BLIND TO LEAD THE BLIND" Dr. Jacobus tenBroek

Certainly one of the most astute critics of this century on matters concerning blindness was Dr. Jacobus tenBroek. His writings on the subject contain a wide range, but throughout he returned to one theme which he emphasized above all others: the importance of blind personnel in work for the blind. This was stated with very special clarity in a paper he presented to the National Rehabilitation Association in 1951:

No doubt the rehabilitation agencies will point with pride to official pronouncements, conceived to guide case work policy and to influence public opinion, which use the language of enlightenment concerning the abilities, potentialities and social needs of blind and other handicapped persons. Yet in fact many, if not most, rehabilitation officers in the various state, federal and private agencies accept the conventional prejudices regarding the unemployability of the blind. Few officers properly stimulate the client's own actions to widen his range of economic activity. Indeed many positively discourage the blind from seeking occupations outside the limited range traditionally regarded as feasible for blind persons. The stereotyped categories in which the administrative mind still operates are illuminated by a well-meaning brochure of the Civil Service Commission, which pridefully observes that "blind workers with proper training are satisfactorily employed in a wide variety of positions. They are especially proficient in manual occupations requiring a delicate sense of touch. They are well suited to jobs which are repetitious in nature." This stereotyped description appears, ironically enough, in a pamphlet on "Untapped Manpower." It illustrates the tendency among those concerned with rehabilitation to think of the handicap in the unreal terms of the public conception rather than the abilities of the person, and therefore to shackle the individual to a stereotype of the group.

The 1935 survey of the employability of the physically handicapped in California reported that "for the totally blind there seems to be comparatively slight opportunity or feasibility for employment. . . . Out of 14,160 jobs studied, only 50 were found to be feasible for totally blind persons." A few years later, in 1941, the California State Department of Education reported that persons with seriously impaired vision are limited to certain selected occupations or restrictive duties in connection with a general occupation. In 1943, a federal manual of medical information for rehabilitation officers in discussing problems connected with visual efficiency explained that "the chief factor in finding jobs for cases is finding prospective employers whose physical requirements are not too stringent." Indeed the whole discussion in this manual, designed to help the agency administer the Barden-LaFollette Act, is founded on the assumption that ability to do various types of work is primarily a matter of whether remaining vision of the impaired client is adequate to job demands. In general, official pronouncements fail to show an interest in introducing the blind in nontraditional pursuits whose tasks can be adapted to learning without vision, and in breaking down labor market stereotypes so that the blind will be hired for work which they can in fact do.

In job placement as in guidance and counseling the emphasis must be upon the capacities rather than the limitations of the blind client; and more particularly, the methods of placement must be intelligently selective, founded solely upon abilities of the individual rather than upon unfounded assumptions about the seriously impaired in general. Too often, however, the term "selective" has meant that only simple and routinized jobs have been selected for the blind. The well-intentioned formula of "selective placement," which threatens to become a kind of magic incantation, unfortunately contains no miracle-working properties; and in the grip of stereotyped thinking it is not only inadequate but harmful and reactionary. The principle of matching the individual with the job, through appraisal of physical demands and physical capacities, is completely frustrated when both are conceived in terms of the stereotype; and moreover it remains a futile gesture without concrete support from measures designed to convince the employer of the capacity of rehabilitated workers. Yet the prevalence of such stereotyping and neglect of concrete demonstration of ability to handle the job is a measure of the failure of rehabilitation agencies to do the work for which they are established.

Throughout the entire rehabilitation program service to the blind clients can be raised to a far higher level by recognition of the special qualification of blind rehabilitation personnel to guide and aid the blind. In the early period of psychological adjustment of the client it is the blind specialist who is most keenly aware of the peculiar nature of the disability, its extreme emotional impact, and the social isolation that tends to result. It is the blind specialist who can convey his own understanding of the client's problem, and illustrate by his own achievement the factual basis of his faith in blind people's ability.

In the whole process of training and counseling, the blind officer is able to replace techniques which in general rehabilitation are oriented around sight, by methods based on the sense of touch and hearing. He is able to avoid far more successfully the tendency to channel blind rehabilitants into the limited and segregated occupations conventionally accepted as fitting. In placement, he has again an opportunity to perform a unique service – first, in modifying employer prejudice by expert demonstrations of ability to handle the job and the job situation, and second, armed with his own attainments as a blind person, to aid his client to form and to realize a new conception of his possibilities of vocational adjustment. He is most likely to have purged himself and therefore to be able to purge his client and the employer of the public misconception of blindness.

While it is no doubt true that the best education that the public can receive is the evidence supplied by successful blind people, it is also true that particular demonstrations of ability are often insufficient to overrule entrenched stereotypes. Successful adaptations on the part of blind individuals tend to be viewed as isolated and exceptional instances by the sighted community – which heartily applauds and turns back comfortably to its fixed idea of the "helpless blind." The proved ability of blind workmen to cope with the skills required must, to be sure, remain the primary evidence in any attempt to educate the sighted public; but to avoid being treated as exceptional the particular instances must be supported by a general philosophy of normality by which alone these adaptations are explainable.*

**Outlook for the Blind*, December, 1951.

ITEM # 9

"WE MUST BE WILLING TO BE WRONG" Dr. Louis Cholden

Proust pointed out that not only is there an editorial use of "we," and a royal use of "we," there is also a medical use of "we," as in, "Have we taken our medicine today? How are we feeling today? Do we have a temperature?" Dr. Louis Cholden employed this to make palatable, one of the most astute criticisms ever made of modern work for the blind. Delivered at a meeting of the National Rehabilitation Association in St. Louis, it was Dr. Cholden's last essay on blindness, the last item in his collected writings on this subject published posthumously by the American Foundation. Its cumbersome title, then appeared, and still appears, too significant to alter.

WHERE DO WE AS REHABILITATION WORKERS FEEL OURSELVES LACKING THAT WE MUST LOOK FOR A SCAPEGOAT?

The topic of my paper has to do with the role and the attitude of the rehabilitation worker – the rehabilitator as he attempts to fulfill himself in his daily working life. For each of us must find our fulfillment in our own enrichment in our work. When we don't, we find instead that work is a drudgery or an endless progression of irritating events. The hopeless outlook that then emerges is the nurturing soil for rationalization, excuses concerning our own deficiencies, and the projection of our own failures onto the client, onto society, etc.

I was thinking about society's attitudes toward blindness, and I found I was angry and disturbed at this innocent group of respectable citizens, and I was indulging myself in the old game that is called, "Let's blame society." And this is usually a game that is practiced when we find ourselves to be insufficient.

Now I am not saying that society is pure and has no detrimental attitudes at all. Rather, what I am saying is that we must clean our own house before we look for dirt in the next house. Let us for a moment consider the meaning of our task; let us think what we are doing in rehabilitating a blind person.

First, we must realize that those of our clients we call the acquired blind don't only lose something; they acquire something. They add something unto themselves; they add blindness. Such a person lives in a different world, internally and externally, personally and socially. We have heard about this – the dimensions of this world, the frights in such a world. He adds, however, the new concept unto himself of being a different kind of person from all other people and the kind of person he was before. To him, rehabilitation means the reorganization or the bridging of the gap between the old self he was and the new self he must become. This is what rehabilitation is, and it must be done first. The mechanics of life must be attended to: first, the walking, the reading, the earning and the eating; second, his place in the society of man, for now he has a new and unique position; and third, the ways of personal fulfillment – the ways he finds satisfaction and finds his own enrichment.

Rehabilitation, then, is a total reconstitution of the being to someone different from the previous being, in preparation for a different life. It is really a metamorphosis, and it is made very difficult by the fact that each person resists such a major change in himself; he has an inertia to the rehabilitation processes. And we as rehabilitators cannot change him or her. We can only, by our knowledge and our experience, stand by, stimulate, tantalize and facilitate the internal, innate ability present in each of our clients to make this change himself. This is *very* important. We are not the changers; the client is the changer. We are the watchers, and we must be helpful watchers.

But how do we as rehabilitation workers see ourselves as carrying out this ridiculously ambitious view of rehabilitation – the changing of a life? From my small experiences in the field, I believe that we often become so involved in the boredom, in the burden of our daily efforts, that we forget our clients for our task. I recognize that this is an abstruse statement, but let me tell you what I mean. It has something to do with the word "caseload." You don't very often hear a rehabilitation worker say, "Oh, how nice. I have two new clients," but, "Oh, my caseload, my burden is increased."

We recognize rationalization in our clients, for we see it every day. The blind person says that he cannot become self-sufficient, as a breadwinner or some other way, because of his handicap. We know he is not a realist. He is using his blindness as a protection from facing the vocational task for which he is emotionally unprepared. In a like manner, we find rehabilitation workers who say, "Well, we are understaffed – our budget isn't enough – we are only doing diagnosis – we cannot do a real rehabilitation job." The blind man says, "I cannot live like other people because I am blind. I have an excuse."

When I come to agencies, very often as I walk through the door, I hear the excuses: "We only have four people, we should have seven; we thought that we were going to get this or that kind of a budget." And we hear the same thing from our blind clients who are really saying, "I can't do it; I am insufficient emotionally." And this is what goes on in most of our work.

This rationalization is really a refuge from anxiety which would result if we really felt we must meet our responsibility. Let each of us ask what our rationalizations are today. We've got them. I've got my own. You have yours. Now, before you become too annoyed with me, let me tell you what I feel is the obligation of each rehabilitation worker, whether an occupational therapist, a social worker, a travel trainer or an agency director.

First, the rehabilitation worker must decide that he will have to know his client, not his name but his person, not his vital statistics but his past hopes and dreams, his present feelings toward his handicap and his aspirations, both shattered and possible. For when he is well understood, we can stand by as he rebuilds and with the help of our experience in this rebuilding process, we can serve as a reservoir of strength and hope for him.

Not long ago I consulted with the staff of a fine diagnostic center, and they brought up a case that presented many problems that they did not know how to deal with. This was an excellent center, but they couldn't possibly know how to deal with the man's problems and the problems he created in the center. When I asked how long he had been blind and what had blinded him, they didn't know. They were trying to rebuild without having the vaguest idea of the material or the stuff they were rebuilding. No carpenter would do that.

They did not know his old self, his new self and his dreamed-of self. When you know less, you are a technician in the worst sense of the word. What do you think of the doctor who is only interested in listening to your heart and not at all interested in listening to you? He is a technician. He may be a good technician, as we must all be technically competent. But we must be more; we must realize that what we do affects the total life of a human being, no matter what our position is in the rehabilitation process. Do we always, then, act with respect for the serious nature of our task in rehabilitation?

Is it too severe to compare our efforts to that of a doctor who must consider the whole future life of his patient in every operation he does, that the omission of one step in the reconstructive process may spell doom in a total life? We expect every bit of the doctor's knowledge and skill to be at our disposal; his results are clearly important. But I maintain that so are our results. How would we, as the doctor's patient, respond to the information that he can't do a good operation because he is poorly staffed, and the budget isn't good, and the operating tools aren't what they should be? We would figure that this man shouldn't be doing surgery.

But how do we deal with a client who isn't interested or is slow in learning braille and travel? De we feel we had best spend our time with people who want help more? Have we manufactured some explanation or rationalization for our failure as teachers and rehabilitation workers? There are so many of these rationalizations – I use them myself, you know. After forty, what can you do? He has been blind for eight years and nobody has helped him, he is through. We have such a cavalier attitude and a kind of a casualness in rehabilitation work. It frightens me!

With this attitude, we often condemn people to a life of doom. How many times have I heard someone say that this man is so stubborn we can't work with him. He's lazy. There is an agency where three days after the client has been received he is classified "unrehabilitatable." "There might be a limited goal" is the second stage, and the third is "possibly rehabilitatable." Bingo! Three days! How many of us feel that these contacts are failures on our part? It would be very hard on us personally if we felt these failures. And that is the purpose of the ready-made excuse or rationalization that we shouldn't be hurt.

This is not to say that we must force our patients to do things (far from it), that we have got to rehabilitate them with a fervor. You don't get very far that way. But we must dedicate ourselves to an understanding of each disorganized life that fate has put into our hands, and to be humble before the enormity of our task. When we realize that during this rehabilitation, this bridging period, the way we function will decide the remaining years of our client's life, decide whether it will be torture or a satisfying lifetime, we can become frightened with such a responsibility.

If that is the fact of rehabilitation as I see it, it is a very serious business. It is such a difficult business, for we deal with the most ephemeral of materials: attitudes, ideas, concepts of self, aspirations, ambitions. These things are as wispy and as formless in body as cobwebs, yet those are the things that determine the meaning and the direction of living. These attitudes determine whether blindness is life or death. And attitudes are contagious; the ophthalmologist, the braille teacher, the nurse and relatives, each affects the blind person with an attitude.

Now we have looked at some of the rationalizations; let us pause a moment to look at our attitudes toward blindness. With what germ are we infecting our client? And with what germ do we infect our staffs so that it goes down to the client and to the relatives and society because we are infectious, too? Are we deeply optimistic or pessimistic about the life of a blind person; Are we Pollyannas or brooders of doom? What do we personally feel that life as a blind individual is? And this, by the way, is directed at those rehabilitation workers for the blind who are themselves blind. I have seen as much calling of doom in rehabilitation workers who are themselves blind, as much capriciousness in their attitude toward rehabilitation as I have ever seen in the sighted.

Now, what we personally feel about the life of a blind individual, of course, is in some way related to why we are in this field and how we operate in this field. I have seen rehabilitation workers who basically feel that the life of a blind person is so empty and hopeless that only through the kindness and administrations of his good mother will life be made better for him. I have seen the gimlet-eyed technician who is full of practicality and realism, who looks at the client and says, well, he can't do this because of such-and-such, and he rejects his clients with very, very good rationalizations. So you find some of our workers who make people more helpless than they need to be, some who reject them and throw them out into the field. On the other hand, we find many workers who do as adequate a job as can be done.

This business of attitude is a tricky business. I first became acquainted with the concept of attitude when I started working in the rehabilitation center in Topeka. I came across some of our clients who had not known for years that they were really and clearly, definitely blind, because very well-meaning ophthalmologists did not know the effect on the rehabilitation procedure process of not clearly telling their client he was blind.

And so I thought, why that is easy – just tell them. And I was invited down to Mexico City to the Pan American Ophthalmological Congress to talk about informing a patient of blindness, and I told them some of these things. And the first five questions that emerged from the audience of ophthalmologists (certainly very competent people, very kind people) was, "Doctor, how could you go round telling people that they are blind? They will commit suicide. It is like telling them that they are dead." One man said, "Doctor Cholden, do you understand the tragedy of blindness?" And I realized why they weren't telling people that they were blind. They couldn't. It was too tragic. But what an infectious attitude! What will their patients feel? How would they look at blindness with optimism? So your job as rehabilitation workers is clear. You don't deal with society; you deal with the first person who tells somebody he is blind – with the ophthalmologist.

A little later I was invited to the American Academy of Ophthalmology and Otolaryngology in Chicago which meets every year, and they asked me to give an instruction course in informing the patient of blindness. The meetings consist primarily of small groups of doctors, ophthalmologists, who meet and talk about something or other. I told them the same sort of thing. It was revelationary to me here, too. First I learned that there are some residencies in ophthalmology where the word *blind* is not allowed. You might use the term "loss of sight," but never "blind." You can feel the attitude this expresses.

This is part of the social attitudes. We know so many things about ophthalmology. You certainly would not start working with a client without having a good ophthalmologist diagnosis, a good cardiac diagnosis. You use these things always. I have never heard of a diagnosis of motivation, or of a diagnosis that says how much courage, how much internal strength the client has. I really think that it is *terribly* important, much more important than the fine consultative services that we have in the cardiac condition, and maybe even with the ophthalmological condition. For rehabilitation is made of attitudes, of courage, of strength, of desire to change, and of information of how people get this desire. We are babes in the woods in that area.

So first, we must know what we are doing – a constant re-evaluation of one's efforts is basic to a program in every field and, especially so, in ours. We must know how many of our ideas are simply traditional hand-me-downs, uncritically accepted, and how many have real value. We have to know what is truth and what is excuse. This can only be learned from research. Then, we must be willing to be wrong in the interest of our own advancement, adventures, experiments. We must try many things, new things, in order to learn and develop ourselves. And each time we have tried something, invented an idea and even failed, we have advanced for we know something more.

Our basic theoretical formulations in this field are very insecure; they have very poor form and until there is enough trial and error, not sufficient data will be available to help in the new formulations that must arrive. Then we must have the courage to recognize that each failure with a client is our own failure; that, when we have advanced enough in this field, we will not have the failures in rehabilitation. Thus, each failure is both a personal and a professional lack.

Now this kind of starry-eyed approach to such difficult problems may sound really ridiculously naive, but it derives from a firm conviction that further research, further study, a real throwing of ourselves into our task, recognizing what we are doing, will beat all of our present problems. That is, it can, providing we keep our eyes and ideas on the future and shake off the anchors of the past.

U. S. GOVERNMENT SPONSORED RESEARCH TO STUDY BLINDNESS – 1970 SUPPLEMENT

PREFACED

BY

A COMPOSITE LISTING

OF

SOCIAL AND REHABILITATION SERVICE

RESEARCH AND DEMONSTRATION PROJECTS

1954 TO 1970

By

Mary E. Switzer and Warren Bledsoe

HEW SOCIAL AND REHABILITATION SERVICE RESEARCH AND DEMONSTRATION PROJECTS COMPOSITE LISTING 1954 TO 1970

EXPLANATORY NOTES

PURPOSE OF LISTING:

This listing of research and demonstration projects of the Social and Rehabilitation Service has for its major purpose the encouragement of research utilization by those in a position to do something to help blind people, whether they be actively engaged regulars or people whose occupations offer them occasional opportunities to serve or promote the work of others.

The projects listed, in addition to their immediate practical results, represent approximately 15 years of defining problems of blindness. This process is recorded in those final reports which have been completed. Listing of projects and titles of reports have been done in as simple a form as possible to map the range of exploration so far. Projects have been listed through the calendar year 1969, whether or not final reports are due or available.

When final reports have not yet been made, space has been left for authors, titles and dates to be filled in by those interested in maintaining a complete record. It will be noted that a few reports, which would appear to be due, are not yet available. The causes for this may include death or illness of project directors, as well as other unforeseen adversities, which warrant extension of time allowance.

FOR MORE INFORMATION

It will be noted that special care has been taken to list project directors and agencies, that their addresses have been given, and an alphabetical listing of both has been included. (see pages 215 & 218). It is hoped that this will encourage interested persons to seek information directly from these sources. Project directors are required to supply only 35 copies of final reports to the Central Office of the Social and Rehabilitation Service. Consequently, this office does not regularly have quantities of final reports, especially of earlier projects, and, while attempting to supply information concerning projects to interested persons, frequently has no other alternative than referring correspondents to project directors. Individuals who wish copies of final reports of projects should ordinarily apply initially to the agency which carried on the research.

A permanent collection of the final reports is in the office of the Chief of Services for the Blind and Visually Handicapped, Social and Rehabilitation Service, Washington, D. C., and items in this collection may be consulted by special arrangement, but may not leave the premises. Collections of final reports are also available at the Perkins School for the Blind, Watertown, Mass.; Western University, Kalamazoo, Michigan; the Department of Special Education, California State College at Los Angeles, and Southern Illinois University, Carbondale, Illinois.

COSTS:

Costs shown represent money actually paid, in some cases less than that originally granted. Total costs for each year and gross total are as follows:

1955	$ 32,294	1963	$ 742,692
1956	172,965	1964	823,241
1957	176,760	1965	1,261,657
1958	236,961	1966	1,596,345
1959	355,178	1967	1,469,585
1960	437,178	1968	1,158,942
1961	579,044	1969	504,048

Total $10,111,700

NUMBERING

Two numbers are shown with each project. One is an RD number, which is that given by the Division of Research and Demonstration as part of a series which includes projects not concerned with the blind, therefore ascending in a series of irregular gaps (RD-1; RD-5; RD-31, etc.) To facilitate keeping account of the number of projects concerned solely with the blind, all projects have been given a Division of Services for the Blind (DSB) number.

INTEREST CATEGORIES

It will be seen from a general scanning of projects that the "narrow" subject of blindness is in reality very broad, invading so many pathways of the arts and sciences that few people are equipped to absorb and evaluate all the 183 endeavors funded. Yet the future usefulness of these projects depends on absorption and evaluation. To guide the reader in identifying projects which lie within his area of qualification, projects have been categorized broadly within the following interest categories:

I. Vocational.
II-A. Prevocational-Centers.
II-B. Prevocational-Processes.
II-C. Prevocational-Processes-Optical Aids.
II-D. Prevocational-Processes-Mobility Demonstrations.
II-E. Prevocational-Processes-Testing.
III. Equipment.
IV. Personnel.

The classification of projects by this method has been done with awareness that projects often partake of the nature of several categories and the placing of them in the category chosen might be debated. The lines drawn are not official in any sense, and are not intended to be arbitrary.

Interest Category I (Vocational) contains for the most part those projects which are sometimes described as the "meat and potatoes" of rehabilitation; those projects which either put blind individuals on jobs or have to do with specific training for a special trade or occupation.

Interest Category II (Prevocational) by its subdivisions is almost self-explanatory, containing those prevocational processes by which blind individuals are made ready for rehabiliation in centers, optical aids clinics, mobility training courses, and the like.

Interest Category III (Equipment) is for projects to develop all kinds of hardware to overcome the handicap of blindness. In general such projects are easily categorized.

Interest Category IV (Personnel) gathers all those projects which have to do with the very crucial subject of management and training of workers for the blind, as distinguished from the training of blind people themselves.

Projects in this group often contain aspects which might make a different categorization equally suitable. For example, mobility demonstration projects might well have been in the "personnel" category.

Listings of projects in each interest category follows the total listing of projects. (p. 213)

RD-1 (DSB-1)
Title of Project: Survey of Professional and Administrative Personnel in Work with the Blind

Grantee Agency: American Foundation for the Blind
15 W. Sixteenth St., New York, N. Y. 10001
Project Director: Alexander F. Handel
Interest Category: Personnel
Dates of Project: 1955 - 1 year
Final Report: Handel, Alexander F. and Plunkett, Margaret *National Survey of Personnel Practices in Services for the Blind*. Published final report in two volumes, December, 1968.
Cost: $6,519

RD-5 (DSB-2)
Title of Project: Greenhouse and Nursery Operation at the Georgia Academy for the Blind

Grantee Agency: Georgia Division of Vocational Rehabilitation
129 State Office Bldg., Atlanta, Georgia 30334
Project Director: F. G. Nelms
Interest Category: Vocational
Date of Project: 1955 - 4 years
Final Report: Nelms, F. G. and Nester, Earl W. *Greenhouse and Nursery Training for the Blind in a Vocational Rehabilitation Setting at the Georgia Academy for the Blind*. Published final report, April 1960.
Cost: $56,128

✓ RD-31 (DSB-3)
Title of Project: Evaluation of Music Therapy as a Part of the Curriculum of an Adjustment Center for the Blind

Grantee Agency: Kansas State Department of Welfare
State Office Bldg., Topeka, Kansas 66612
Project Director: Robert Unkefer

(*Continued*)

RD-31 (DSB-3) (*Continued*)
Interest Category: Prevocational Processes
Dates of Project: 1955 - 1 year
Final Report: Unkefer, Robert. *Music Therapy in the Rehabilitation of the Adult Blind.* Published final report, July 1957.
Cost: $6,519

RD-46 (DSB-4)
Title of Project: Development of a Sight Substitute for the Blind

Grantee Agency: Site, Inc. 723 Frazier Court
Topeka, Kansas 66606
Project Director: M. A. McCollom
Interest Category: Equipment
Dates of Project: 1956 - 1 year
Final Report: McCollom, M.A., *Development of a Sight Substitute for the Blind.* Unpublished final report, November 1956.
Cost: $10,600

RD-84 (DSB-5)
Title of Project: Adjustment Center for the Blind (Regional)

Grantee Agency: Minneapolis Society for the Blind
1936 Lyndale Ave., So., Minneapolis, Minn. 55403
Project Director: Byron M. Smith
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1956 - 1 year
Final Report: Subsumed in RD-351 (DSB-24)
Cost: $142,365

RD-90 (DSB-6)
Title of Project: Diversified Farming Activities

Grantee Agency: Cincinnati Association for the Blind
1548 Central Parkway, Cincinnati, Ohio 45214
Project Director: Calvin S. Glover
Interest Category: Vocational
Dates of Project: 1957 - 1 year
Final Report: Glover, Calvin S., *Diversified Farming Activities for the Blind.* Unpublished final report, December 1957.
Cost: $9,435

RD-96 (DSB-7)
Title of Project: Study and Development of a Manual on Rehabiliation Services for the Deaf-Blind

Grantee Agency: Industrial Home for the Blind
57 Willoughby Street, Brooklyn, New York 11201
Project Director: George E. Keane
Interest Category: Prevocational-Processes (*Continued*)

RD-96 (DSB-7) (*Continued*)
Dates of Project: 1956 - 2 years
Final Report: Keane, George E., *Rehabilitation of Deaf-Blind Persons*. Published final report consisting of seven volumes.
Cost: $60,247

RD-111 (DSB-8).
Title of Project: Correlating Services Available to Farmers

Grantee Agency: Alabama Institute for the Deaf and Blind
P.O. Drawer 268, Talladega, Alabama 35160
Project Director: B. Q. Scruggs
Interest Category: Vocational
Dates of Project: 1957 - 3 years
Final Report: Scruggs, B. Q., *Correlating Services Available to Farmers*. Published final report, June 1959.
Cost: $48,014

RD-113 (DSB-9)
Title of Project: Evaluation of the Sensitive Cane

Grantee Agency: Franklin Institute
20 & Parkway, Philadelphia, Penna. 19121
Project Director: Robert J. Gibson and Wallace E. Frank
Interest Category: Equipment
Dates of Project: 1957 - 3 years
Final Report: Gibson, Robert J., and Frank, Wallace E. *Evaluation of the Franklin Institute Electronic Cane*. Unpublished final report, 1963
Cost: $46,002

RD-132 (DSB-10)
Title of Project: Study of Unemployed Blinded and Demonstration of the Effectiveness of the Coordinated Use of Community Resources in the Total Rehabilitation of World War II and Korea Service-Connected Blinded Veterans

Grantee Agency: Blinded Veterans Association
3408 Wisconsin Avenue, N.W., Washington, D. C. 20016
Project Director: Donald E. Elsburgh
Interest Category: Prevocational-Processes
Dates of Project: 1957 - 3 years
Final Report: Elsburg, Donald E., *Study of Selected Unemployed Blinded Veterans and Demonstration of the Effectiveness of the Coordinated Use of Community Resources in the Total Rehabilitation of World War II and Korea Service Connected Blinded Veteran*. Unpublished final report, May 1960.
Cost: $59,058

RD-136 (DSB-11)
Title of Project: Development of a Functional Code for Muscular-Skeletal and Neuro-Muscular Disabilities

Grantee Agency: Association for the Aid of Crippled Children
345 East 46th Street, New York, N. Y. 11203
Project Director: Leonary W. Mayo
Interest Category: Prevocational-Processes-Testing
Dates of Project: 1957 - 3 years
Final Report: Subsumed in final report of Project RD-788 (DSB-56).
Cost: $34,138

RD-157 (DSB-12)
Title of Project: Improving and Accelerating the Process of Raising the Hearing of Blinded Persons to a Greater Degree of Usefulness

Grantee Agency: Cleveland Society for the Blind
1958 East 93rd Street, Cleveland, Ohio 44106
Project Director: Cleo B. Dolan
Interest Category: Prevocational Processes
Dates of Project: 1957 - 3 years
Final Report: Dolan, Cleo B., and Norton, Fay-Tyler M. *Improving and Accelerating the Process of Raising the Hearing of Blinded Persons to a Greater Degree of Usefulness*. Unpublished final research report, 1960.
Cost: $31,155

✓ RD-188 (DSB-13)
Title of Project: An Investigation of Vocational Success with the Blind

Grantee Agency: Purdue Research Foundation
Purdue University, Lafayette, Indiana 47905
Project Director: Joseph Tiffin
Interest Category: Vocational
Dates of Project: 1957 - 3 years
Final Report: Tiffin, Joseph, *An Investigation of Vocational Success with the Blind*. Unpublished final report, November 1960.
Cost: $86,500

RD-226 (DSB-14)
Title of Project: Study of the Role of Option Aids Clinic in Vocational Rehabilitation of Near Blind

Grantee Agency: Washington University, Skinker and Lindell Blvd.
St. Louis, Missouri 63130
Project Director: Benjamin Milder, M.D.
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1958 - 4 years
Final Report: Milder, Benjamin, M.D., *Visual Aids Clinic*. Unpublished final report, March 1962.
Cost: $44,400

RD-235 (DSB-15)
Title of Project: Optical Aids Clinic

Grantee Agency: Georgia Division of Vocational Rehabilitation
129 State Office Bldg., Atlanta, Georgia 30334
Project Director: A. P. Jarrell
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1958 - 4 years
Final Report: Jarrell, A. P., *Low Vision Optical Aids Center.*
Unpublished final report, July 1962.
Cost: $20,271

RD-263 (DSB-16)
Title of Project: Optical Aids Clinic

Grantee Agency: Indiana University Medical Center
Indianapolis, Indiana 46207
Project Director: Fred M. Wilson, M.D.
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1958 - 4 years
Final Report: Wilson, Fred M., *Low Vision Optical Aid Clinic.*
Unpublished final report, March, 1962.
Cost: $30,187

RD-276 (DSB-17)
Title of Project: Optical Aids Clinic

Grantee Agency: Pennsylvania Working Home for the Blind
36th & Lancaster Avenue, Philadelphia, Penna. 19104
Project Director: Neale R. Curtin
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1958 - 4 years
Final Report: Curtin, Neale R., *Low Vision Center*
Unpublished final report, May 1962.
Cost: $17,024

RD-277 (DSB-18)
Title of Project: Optical Aids Clinic

Grantee Agency: Oklahoma State Division of Vocational Rehabilitation
1212 North Hudson, Oklahoma City, Oklahoma 73103
Project Director: Robert W. King, M.D.
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1958 - 2 years
Final Report: King, Robert W. and Dunlap, Jerry
The Oklahoma Clinic for the Fitting of Optical Aids for the Near Blind. Unpublished final report, January 1960.
Cost: $4,850

RD-282 (DSB-19)
Title of Project: Standardization of a Performance Scale for Adult Blind

Grantee Agency: Illinois Institute of Technology
Technology Center, Chicago, Illinois 60616
Project Director: Harriet C. Shurrager
Interest Category: Prevocational-Processes-Testing
Dates of Project: 1959 - 2 years
Final Report: Shurrager, Harriet C., *A Haptic Intelligence Scale for Adult Blind*. Published final report, November 1961.
Cost: $72,198

RD-304 (DSB-20)
Title of Project: A Comparison of Effectiveness of a 16-week Training Program with a 12-week Program in the Rehabilitation of the Blind Adults

Grantee Agency: Catholic Guild for All the Blind
770 Centre Street, Newton, Massachusetts 02721
Project Director: James Sullivan
Interest Category: Prevocational-Centers
Dates of Project: 1958 - 3 years
Final Report: Sullivan, James and Bishop, Yvonne. *Comparison of the Effectiveness of a 16-Week Training Program in the Rehabilitation of Blinded Adults at the St. Paul's Rehabilitation Center*. Unpublished final report, February 1961.
Cost: $106,708

RD-315 (DSB-21)
Title of Project: Research and Demonstration Project in the Demonstration of a Pilot Program of Speech and Aural Rehabilitation Services for Hard-of-Hearing Blind

Grantee Agency: Industrial Home for the Blind
57 Willoughby Street, Brooklyn, New York 11201
Project Director: George E. Keane
Interest Category: Prevocational-Processes
Dates of Project: 1958 - 3 years
Final Report: Keane, George E.; Bergman, Moe; Rusalem, Herbert; Malles, Irvin; Schiller, Vera; Cohan, Helen and McKay, Evelyn. *Auditory Rehabilitation for Hearing-Impaired Blind Persons*. American Speech and Hearing Association Monograph Number 12, March 1965. Published final report.
Cost: $115,974

RD-346 (DSB-22)
Title of Project: Components and Correlates of Attitudes toward Blindness

Grantee Agency: Columbia University, New York
School of Social Work, 9 East 90th Street, N.Y. 10028
Project Director: Martin Whiteman
Interest Category: Personnel
Dates of Project: 1959 - 3 years
Final Report: Whiteman, Martin, and Lukoff, Irving F. *Attitudes and Blindness: Components, Correlates and Effects*. Unpublished final report, 1963.
Cost: $109,342

RD-348 (DSB-23)
Title of Project: Optical Aids Clinic

Grantee Agency: Grace-New Haven Community Hospital
789 Howard Avenue, New Haven, Conn. 06504
Project Director: C. Phillips, M.D.
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1958 - 3 years
Final Report: Phillips, C., *Low Vision Aids Clinic*. Unpublished final report, June 1961.
Cost: $9,742

RD-351 (DSB-24)
Title of Project: Educational Film - Regional Rehabilitation Center for the Blind

Grantee Agency: Minneapolis Society for the Blind
1936 Lyndale Avenue, So. Minneapolis, Minn. 55411
Project Director: Henry A. Daum
Interest Category: Prevocational-Centers
Dates of Project: 1958 - 1 year
Final Report: Daum, Henry A., *Believing in Seeing*. An educational and information 35mm., color film strip and long playing 33-1/3 RPM recording, with running time of 20 minutes, about the Regional Rehabilitation Centers. A final project, December 1960.
Cost: $3,500

RD-352 (DSB-25)
Title of Project: Beauty for the Sighted and Blind

Grantee Agency: American Foundation for the Blind
15 West 16th Street, New York, N. Y. 20005
Project Director: M. Robert Barnett
Interest Category: Prevocational-Processes
Dates of Project: 1958 - 1 year
Final Report: Eaton, Allen H., *Beauty for the Sighted and the Blind*. A final project report, December 1959.
Cost: $4,600

RD-378 (DSB-26).
Title of Project: A Study of Administrative Methods and the Responses of Blind and Sighted Populations

Grantee Agency: N. C. Commission for the Blind
P.O. Box 2658, Raleigh, North Carolina 27602
Project Director: William M. Cannon
Interest Category: Prevocational-Processes-Testing
Dates of Project: 1959 - 1 year
Final Report: Cannon, William M., *A Study of the Effect of Automatic Machine Administration of the Kuder Preference Record Upon the Responses of Blind and Sighted Individuals.* Unpublished final report, October 1959.
Cost: $7,560

RD-398 (DSB-27)
Title of Project: Optical Aids Clinic

Grantee Agency: Rhode Island Association for the Blind
39-40 Arcade Building, Providence, R. I. 02905
Project Director: Mrs. H. W. Worden
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1959 - 4 years
Final Report: Worden, H. W., and Dichiara, Frank W. *Vision Rehabilitation Clinic.* Unpublished final report, 1963.
Cost: $24,589

RD-399 (DSB-28)
Title of Project: Optical Aids Clinic

Grantee Agency: Vanderbilt University Hospital
Nashville, Tennessee 37203
Project Director: Richard O. Cannon
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1959 - 3 years
Final Report: Cannon, Richard O., *Low Vision Optical Aids Clinic.* Unpublished final report, 1962.
Cost: $9,964

RD-400 (DSB-29)
Title of Project: Optical Aids Clinic (Low Vision Clinic for Advancing Optical Aids)

Grantee Agency: Cleveland Society for the Blind
1958 East 93rd Street, Cleveland, Ohio 44106
Project Director: Kaine, Patricia A., and Dolan, Cleo B.
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1959 - 4 years
Final Report: Kaine, Patricia A. and Dolan, Cleo B. *Low Vision Clinic for Advancing Use of Optical Aids.* Unpublished final report, April 30, 1963.
Cost: $41,975

RD-416 (DSB-30)
Title of Project: Optical Aids Clinic

Grantee Agency: Utah Commission for the Blind
309-315 East 1st So. Salt Lake City, Utah 84111
Project Director: Donald W. Perry
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1959 - 3 years
Final Report: Perry, Donald W., *Optical Aids Clinic.* Unpublished final report.
Cost: $15,490

RD-428 (DSB-31)
Title of Project: Time and Cost Study of the Vocational Rehabilitation Program for the Blind in a Rural State

Grantee Agency: Montana State Department of Welfare
10th & North Ewing, Helena, Montana 59601
Project Director: Theodore Carkulis
Interest Category: Vocational
Dates of Project: 1960 - 1 year
Final Report: Carkulis, Theodore and Severson, Duane C. *Rehabilitation of the Blind: A Time Factor Study.* Unpublished final report, September 1960.
Cost: $6,000

RD-433 (DSB-32)
Title of Project: Digital Computer Enciphering of English into Braille

Grantee Agency: Wayne State University
Detroit, Michigan 48207
Project Director: W. Givens, Ph.D.
Interest Category: Equipment
Dates of Project: 1959 - 1 year
Final Report: Givens, W. and Nemeth, Abraham, *Digital Enciphering of English into Braille.* Unpublished final report, 1963.
Cost: $19,240

RD-439 (DSB-33)
Title of Project: National Personnel Referral Service

Grantee Agency: American Foundation for the Blind
15 West 16th Street, New York, N. Y. 10011
Project Director: Alexander Handel
Interest Category: Personnel
Dates of Project: 1960 - 3 years

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RD-439 (DSB-33) (*Continued*)
Final Report: Handel, Alexander F., *Personnel Referral Service – A National Clearing House for Jobs and Personnel in the Field of Blindness: Report of Activities*. Unpublished final report, August 1963.
Cost: $55,904

RD-442 (DSB-34)
Title of Project: Rehabilitation Ophthalmology

Grantee Agency: Georgetown University Medical Center
37 & O Streets, N.W., Washington, D. C. 20007
Project Director: J. F. O'Rourke, M.D.
Interest Category: Personnel
Dates of Project: 1960 - 4 years
Final Report: O'Rourke, J. F., M.D., *Ophthalmology and Blindness*. Unpublished final report, August 1963.
Cost: $86,181

RD-475 (DSB-35)
Title of Project: Industrial Homework for the Blind

Grantee Agency: South Dakota Services to the Blind and Visually Handicapped, State Capitol Bldg.
Pierre, South Dakota 57704
Project Director: Howard H. Hanson
Interest Category: Vocational
Dates of Project: 1960 - 2 years
Final Report: Negative: (Grantee requested project terminated as unfeasible, due to very wide scattering of the population).
Cost: $15,730

RD-498 (DSB-36)
Title of Project: Optical Aids Clinic
Grantee Agency: University of Texas Southwestern Medical School
5323 Harry Hines Blvd., Dallas, Texas 75235
Project Director: C. W. Browning, M.D.
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1960 - 3 years
Final Report: Browning, C. W. and Byers, Jerome L. *Low Vision Optical Aids Clinic*. Unpublished final report, October 1964.
Cost: $6,785

RD-510 (DSB-37)
Title of Project: Identifying and Teaching Cues for Traveling in the Blind

Grantee Agency: C. W. Shilling Auditory Research Center
340 Long Hill Road, Groton, Connecticut 06114
Project Director: J. D. Harris, Ph.D.
Interest Category: Prevocational-Processes

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RD-510 (DSB-37) *(Continued)*
Dates of Project: 1960 - 3 years
Final Report: Harris, J. D.; Dupress, J. D.; Wright, H. N.; Curtis, J. F.; Winer, D.; Gropper, F. K.; and Kelsey, P. A. *Identification and Teaching of Auditory Cues for Traveling in the Blind.* Unpublished final report, March 1963.
Cost: $96,285

RD-515 (DSB-38).
Title of Project: Optical Aids Clinic

Grantee Agency: University of Mississippi, Medical Center
2500 N. State Street, Jackson, Mississippi 39216
Project Director: S. B. Johnson, M.D.
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1960 - 3 years
Final Report: Johnson, Samuel B., M.D., *Low Visual Aids Clinic.* Unpublished final report, 1963.
Cost: $7,956

RD-525 (DSB-39)
Title of Project: Optical Aids Clinic

Grantee Agency: McCook Memorial Hospital
2 Holcomb Street, Hartford, Connecticut 06103
Project Director: L. H. Harris, M.D.
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1960 - 2 years
Final Report: Harris, L. H.; Hughes, Calvin T. *Low Vision Optical Aids Clinic.* Unpublished final report, 1963.
Cost: $5,748

RD-539 (DSB-40)
Title of Project: Correlating Services Available to Farmers

Grantee Agency: Virginia Commission for the Visually Handicapped
3003 Parkwood Ave., Richmond, Virginia 23221
Project Director: D. C. MacFarland
Interest Category: Vocational
Dates of Project: 1960 - 3 years
Final Report: MacFarland, D. C., *Correlating Services Available to Farmers.* Published final report, 1963.
Cost: $40,054

✓ RD-556 (DSB-41)
Title of Project: Development of Basic Research Materials and a Manual in the Use of Recording Textbooks

Grantee Agency: Recording for the Blind
121 East 58 Street, New York, N. Y. 10022 *(Continued)*

RD-556 (DSB-41) (*Continued*)
Project Director: Burnham Carter
Interest Category: Prevocational-Processes
Dates of Project: 1961 - 1 year
Final Report: Carter, Burnham, *The Development of Basic Research Materials and a Manual on the Use of Recorded Textbooks.* Unpublished final narrative research report, July 1961.
Cost: $21,400

RD-563 (DSB-42)
Title of Project: Optical Aids Clinic

Grantee Agency: Mobile General Hospital
850 St. Anthony St., Mobile, Alabama 36603
Project Director: Eugene de Juan, M.D.
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1960 - 3 years
Final Report: De Juan, Eugene, *Optical Aids Clinic.* Unpublished final report, May 1963.
Cost: $17,144

RD-567 (DSB-43)
Title of Project: Regional Training Center for Piano Tuner Technician

Grantee Agency: Alabama Institute for Deaf and Blind, Adult Blind Department, P.O. Drawer 17,
Talladega, Alabama 35160
Project Director: E. H. Gentry
Interest Category: Vocational
Dates of Project: 1960 - 3 years
Final Report: Gentry, E. H., *Regional Training Facility for Piano Tuner Technicians*. Unpublished final report, 1963.
Cost: $53,196

RD-570 (DSB-44)
Title of Project: Optical Aids Clinic

Grantee Agency: West Virginia Division of State Capitol Bldg.
Charleston, West Virginia 25305
Project Director: Earl W. Wolfe
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1960 - 3 years
Final Report: Wolfe, Earl W., and Defabio, Gene A. *Optical Aids Clinic*. Unpublished final report, January 1963.
Cost: $7,617

√ RD-587 (DSB-45)
Title of Project: Tactual Symbols

Grantee Agency: American Printing House for the Blind
1839 Frankfort Ave., Louisville, Kentucky 40206

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RD-587 (DSB-45) *(Continued)*
Project Director: Carson Y. Nolan
Interest Category: Equipment
Dates of Project: 1961 - 2 years
Final Report: Nolan, Carson Y. and Morris, June E. *Tactual Symbols for the Blind.* Unpublished final report 1962. 1963.
Cost: $13,128

RD-590 (DSB-46)
Title of Project: Optical Aids Clinic for Individuals Who Are Legally Blind

Grantee Agency: Nevada State Welfare Department Bureau of Services
311 North Curry Street, Rm. 113, Carson City, Nevada 89701
Project Director: John Ruiz
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1961 - 3 years
Final Report: Ruiz, John C., *Low Vision Optical Aids Clinic.* Unpublished report, 1963.
Cost: $11,000

RD-617 (DSB-47)
Title of Project: Optical Aids Clinic

Grantee Agency: University of Miami, School of Medicine
Coral Gables, Florida
Project Director: Edward W. D. Norton, M.D.
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1961 - 4 years
Final Report: Norton, Edward W. D., *A Demonstration of Extending Optical-Aid-Center Services, Skills, Knowledge and Research Data to Local Communities.* Unpublished final report, October 1, 1966.
Cost: $72,836

RD-633 (DSB-48)
Title of Project: Establishment of the Relative Productivity of Techniques for Placing Blind Persons in Employment

Grantee Agency: Mississippi Division of Rehabilitation for the Blind
P.O. Box 1669, Jackson, Mississippi 39205
Project Director: Raymond D. Williams
Interest Category: Vocational
Dates of Project: 1961 - 3 years
Final Report: Stojanovic, Elizabeth L. and Carballo, James L. *A Study for the Purpose of Establishing the Relative Productivity of Techniques for Placing Blind Persons in Competitive Employment.* Unpublished final report, September 1963.
Cost: $48,940

RD-634 (DSB-49)
Title of Project: An International Survey and Analysis of Technical Devices Designed for the Education, Rehabilitation and Personal Aid of Blind Persons

Grantee Agency: American Foundation for the Blind
15 W. 16th Street, New York, N. Y. 10001
Project Director: M. Robert Barnett
Interest Category: Equipment
Dates of Project: 1960 - 2 years
Final Report: Wiesner, Jerome B., General Chairman; Barnett, M. Robert, Associate Chairman, and Project Director; Halopigian, N. Charles, Association Chairman; and Clark, Leslie L., *Proceedings of the International Congress on Technology and Blindness*. Published final report, in four volumes, including catalog and appendix, 1963.
Cost: $65,690

RD-654 (DSB-50)
Title of Project: The Development of Devices for Blind Persons in Their Occupations and Daily Living

Grantee Agency: Maryland Workshop, 2901 Strickland Street
Baltimore, Maryland 21223
Project Director: Ratchford, William S.
Interest Category: Equipment
Dates of Project: 1961 - 2 years
Final Report: Ratchford, William S., *Mechanical Devices for the Blind*. Unpublished final report, June 1963.
Cost: $29,370

√ RD-670 (DSB-51)
Title of Project: Modification of the Raven Matrices for Presentation to the Blind

Grantee Agency: Texas Technological College
Lubbock, Texas 79406
Project Director: Anderson, R. P., M.D.
Interest Category: Prevocational-Processes-Testing
Dates of Project: 1961 - 3 years
Final Report: Anderson, Robert P., *Raven Progressive Matrices for Presentation to the Blind*. Unpublished final report, January 1964.
Cost: $31,063

RD-672 (DSB-52)
Title of Project: Rehabilitation Centers for the Blind, an Architectural Guide

Grantee Agency: Oklahoma State University College of Engineering
Stillwater, Oklahoma 74075

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RD-672 (DSB-52) *(Continued)*
Project Director: Cuthbert F. Salmon
Interest Category: Prevocational-Centers
Dates of Project: 1961 - 1 year
Final Report: Salmon, F. Cuthbert, *The Blind: Space Needs for Rehabilitation*. An architectural guide. Unpublished final report, July 1962.
Cost: $19,161

RD-701 (DSB-53)
Title of Project: Optical Aids Clinic

Grantee Agency: Presbyterian Eye, Ear and Throat Charity Hospital
Baltimore, Maryland 21215
Project Director: R. E. Hoover, M.D.
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1961 - 4 years
Final Report: Hoover, Richard E., *Low Vision Clinic*. Unpublished final report, May 1967.
Cost: $31,118

RD-740 (DSB-54)
Title of Project: Manual Arts for the Blind

Grantee Agency: University of Illinois Industrial Education Division,
Urbana, Illinois 61803
Project Director: Robert A. Tinkham
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1961 - 2 years
Final Report: Tinkham, Robert A., *Teaching Woodworking to Visually Handicapped Persons - An Instructor's Guide*. Published final report, August 1963.
Cost: $51,197

RD-779 (DSB-55)
Title of Project: Conference to Explore How Blind Persons Can Best Meet the Needs of the Piano Industry

Grantee Agency: Perkins School for the Blind
175 North Beacon St., Watertown, Mass. 02172
Project Director: Edward J. Waterhouse
Interest Category: Vocational
Dates of Project: 1961 - 1 year
Final Report: Waterhouse, E. J., *Piano Industry Conference*. A conference to explore how blind persons can best meet needs of piano industry. Watertown, Mass., April 13-15, 1961. Published final report, August 1961.
Cost: $14,989

RD-788 (DSB-56)
Title of Project: To Develop and Test an Operational Statistical Code

Grantee Agency: Association for the Aid of Crippled Children
345 East 46th St., New York, N. Y. 11203
Project Director: Maya Riviere
Interest Category: Prevocational-Processes
Dates of Project: 1961 - 3 years
Final Report: Riviere, Maya, *Rehabilitation Codes: Code for Impairment of Visual Function; Section 300-309 of the Impairment Code*. Revised, June 1963. Published final report.
Cost: $97,500

RD-799 (DSB-57)
Title of Project: Regional Rehabilitation Center

Grantee Agency: San Francisco Lighthouse for the Blind
1097 Howard St., San Francisco, Calif. 94103
Project Director: George W. Felton
Interest Category: Prevocational-Centers
Dates of Project: 1961 - 3 years
Final Report: Felton, George W., and Rumsey, Winfield S., *Regional Rehabilitation Center*. Unpublished final report.
Cost: $106,420

RD-835 (DSB-58)
Title of Project: Adjustment of Blind Persons

Grantee Agency: Graduate School of Social Work, University of Pittsburgh, Pittsburgh, Pa. 15213
Project Director: Irving F. Lukoff
Interest Category: Prevocational-Processes
Dates of Project: 1962 - 2 years
Final Report: Lukoff, Irving F., and Whiteman, Martin, *The Social Sources of Adjustment of Blindness*. Unpublished final report, 1965.
Cost: $36, 834

RD-852 (DSB-59)
Title of Project: Optical Aids Clinic

Grantee Agency: Sinai Hospital of Detroit
Detroit, Michigan 48235
Project Director: Morris J. Mintz, M.D.
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1962 - 3 years
Final Report: Mintz, Morris J., M.D.; Gayner, Ernest M., and Gordon, Arnold H., *Low Vision Clinic*. Unpublished final report, December 1966.
Cost: $41,632

RD-869 (DSB-60)
Title of Project: Development of a Solution to the Problem of Preserving and Circulating Literature

Grantee Agency: American Association of Workers for the Blind
1511 K St., N.W., Washington, D. C. 20005
Project Director: Isabella S. Diamond
Interest Category: Personnel
Dates of Project: 1962 - 3 years
Final Report: Diamond, Isabella S., *Catalogue of Basic Source Material in the Field of the Blind.* A selective annotated dictionary catalogue on 3 x 5 library cards, published by the American Association of Workers for the Blind.
Cost: $59,901

RD-871 (DSB-61)
Title of Project: Mobility Research Planning Conference

Grantee Agency: American Foundation for the Blind
15 West 16th St., New York, N. Y. 10011
Project Director: John K. Dupress
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1962 - 1 year
Final Report: Dupress, John J., and Lisner, James W., *Proceedings of the Mobility Research Conference, Washington, D. C., September 25, 1961 and Massachusetts Institute of Technology, October 11-13, 1961*. Published, first of three-part final report, May 1963.
Cost: $2,860

RD-876 (DSB-62)
Title of Project: Clinic for Fitting Optical Aids for the Near Blind

Grantee Agency: Arkansas Enterprises for the Blind
2811 Fair Park Blvd., Little Rock, Ark. 72204
Project Director: Junis B. Cross
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1963 - 1 year
Final Report: Cross, Junis B., and Russell, Dojelo C., *Clinic for the Fitting of Optical Aids for the Near Blind.* Unpublished final report, June 1963.
Cost: $6,175

RD-898 (DSB-63)
Title of Project: Standardization of Perkins-Binet Tests

Grantee Agency: Perkins School for the Blind
175 North Beacon St., Watertown, Mass. 02172
Project Director: Carl J. Davis
Interest Category: Prevocational-Processes-Testing

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RD-898 (DSB-63) (*Continued*)
Dates of Project: 1963 - 3 years
Final Report:
Cost: $74,159

RD-915 (DSB-64)
Title of Project: Professional Counseling and Placement Service

Grantee Agency: N. Y. Association for the Blind
111 East 59th St., New York, N. Y. 10022
Project Director: Wesley D. Sprague
Interest Category: Prevocational-Processes
Dates of Project: 1962 - 3 years
Final Report: Crawford, Fred L., and Sprague, Wesley D., *Guidelines for the Counseling and Placement of Blind Persons in Professional Occupations.* Published final report, 1965
Crawford, Fred L., and Lutzman, Sidney, *Counseling and Placement of Blind Persons in Professional Occupations: Practice and Research.*
Crawford, Fred L., and Sprague, Wesley D., *A Manual of Practices and Procedures in the Establishment and Operation of a Professional Counseling and Placement Service.* Unpublished final report, March 1965.
Cost: $48,935

RD-970 (DSB-65)
Title of Project: Planning for Program of Statewide Mobility Services for the Visually Handicapped

Grantee Agency: Society of St. Vincent de Paul
4140 Lindell Blvd., St. Louis, Missouri 63108
Project Director: Thomas J. O'Donnell
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1962 - 1 year
Final Report: Subsumed in RD-1179 (DSB-75)
Cost: $7,300

RD-1004 (DSB-66)
Title of Project: Regional Rehabilitation Services for Deaf-Blind Persons

Grantee Agency: Industrial Home for the Blind
57 Willoughby St., Brooklyn, New York 11201
Project Director: Peter J. Salmon
Interest Category: Prevocational-Processes
Dates of Project: 1962 - 5 years
Final Report: Rusalem, Herbert, et al., *New Frontiers for Research in Deaf-Blindness* 1966. *Instruction in Physical Orientation and Foot Travel of Deaf-Blind Persons* 1966.
Cost: $521,094

RD-1018 (DSB-67)
Title of Project: Corneal Replacement with Optical Prosthesis

Grantee Agency: Eye-Bank for Sight Restoration
210 East 64th St., New York, N. Y. 10021
Project Director: Miguel Martinez
Interest Category: Prevocational-Processes
Dates of Project: 1963 - 2 years
Final Report: Martinez, Miguel, M.D., *Corneal Replacement with Optical Prostheses*. Unpublished final report, 1964.
Cost: $40,555

RD-1082 (DSB-68)
Title of Project: Mobility Training for the Blind

Grantee Agency: Catholic Charities
126 N. Desplaines St., Chicago, Illinois 60606
Project Director: Marian C. Quinn
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1963 - 4 years
Final Report: Quinn, Marian C., *Independent Travel Training for Blind Children*. Published final report, December 1967.
Cost: $47,747

✓ RD-1086 (DSB-69)
Title of Project: Training for Increasing Braille Reading Rates

Grantee Agency: American Printing House for the Blind, Inc.
1839 Frankfort Avenue, Louisville, Kentucky 40206
Project Director: Carson Y. Nolan, M.D.
Interest Category: Prevocational-Processes
Dates of Project: 1963 - 1 year
Final Report: Kederis, Cleves J., *Training for Increasing Braille Reading Rates*. 1964
Cost: $5,380

RD-1094 (DSB-70)
Title of Project: Correlates of Adjustment to Visual Disability

Grantee Agency: University of Wichita
1845 Fairmont, Wichita, Kansas 67208
Project Director: Robert J. Teare
Interest Category: Prevocational-Processes-Testing
Dates of Project: 1963 - 2 years
Final Report: Teare, Robert J., *Test Battery for Use with the Blind*. August 1966.
Cost: $62,772

RD-1107 (DSB-71)
Title of Project: A Mobility Aid for the Blind to Supplement the Cane

Grantee Agency: Stanford Research Institute
333 Ravenwood Ave., Menlo Park, Calif. 94306
Project Director: K. W. Gardner
Interest Category: Equipment
Dates of Project: 1963 - 3 years
Final Report: Gardner, K. W., and Bliss, J. C., *A Mobility Aid for the Blind to Supplement the Cane.* Unpublished final report, May 1966.
Cost: $60,967

✓ RD-1167 (DSB-72)
Title of Project: Application of Programmed Learning to Braille Instruction

Grantee Agency: University of Wisconsin
Madison, Wisconsin 53706
Project Director: Rick Heber, Ph.D.
Interest Category: Prevocational-Processes-Testing
Dates of Project: 1963 - 2 years
Final Report: Heber, Rick; Long, Ray; and Flanigan, Patrick; *A Study of Programmed Instruction in Braille.* Published final report, July 1967.
Cost: $105,241

RD-1168 (DSB-73)
Title of Project: Itinerant Instruction in Orientation and Mobility for Blind Adolescents in Public Schools

Grantee Agency: Alameda County School Department
224 W. Winton Ave., Hayward, Calif. 94544
Project Director: Daniel E. Johnson, Ph.D.
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1963 - 3 years
Final Report: Wurzburger, Berdell; Johnson, D. E., and Gilson, Charles, *Itinerant Instruction in Orientation and Mobility for Blind Adolescents in Public Schools.* Published final report, June 1966.
Cost: $65,343

RD-1169 (DSB-74)
Title of Project: A Project to Demonstrate the Value of Mobility Instruction as a Technique to Motivate the Blind

Grantee Agency: Mecklenberg County Association for the Blind
704 Louis Ave., Charlotte, North Carolina 28204
Project Director: Arthur M. Dye, Jr.
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1963 - 3 years

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RD-1169 (DSB-74) *(Continued)*
Final Report: Couchell, Peter, Jr.; Keating, William P.; and McCoig, Ralph J.; *The Value of Mobility Instruction as a Technique to Motivate Blind Individuals.* Unpublished final report, August 1966.
Cost: $29,195

RD-1179 (DSB-75)
Title of Project: Community Program of Orientation and Mobility Services for the Blind in Missouri

Grantee Agency: Society of St. Vincent de Paul
4140 Lindell Blvd., St. Louis, Missouri 63108
Project Director: Robert Gronemeyer
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1963 - 2 years
Final Report: Gronemeyer, Robert, *Community Program of Orientation and Mobility Services for the Blind in Missouri.* January 1969.
Cost: $80,454

RD-1198 (DSB-76)
Title of Project: Pilot Demonstration of the Use of the British Tape Program

Grantee Agency: Virginia Commission for the Visually Handicapped
3003 Parkwood Ave., Richmond, Virginia 23221
Project Director: D. C. MacFarland, Ph.D.
Interest Category: Equipment
Dates of Project: 1963 - 2 years
Final Report: MacFarland, D. C., Ph.D., *British and American Tapes Compared.* October 1964.
Cost: $46,594

RD-1228 (DSB-77)
Title of Project: Education Program to Maximize Independent Mobility of Blind Children in Public Schools at the Elementary, Junior High and High School Levels

Grantee Agency: Metropolitan Society for the Blind
1401 Ash Street, Detroit, Michigan 48208
Project Director: McAllister Upshaw
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1964 - 3 years
Final Report: Upshaw, M. C., *Establishing Mobility Training for Blind Children as a Function of Special Education in Public Schools.* Published final report, February 1968.
Cost: $51,785

RD-1232 (DSB-78)
Title of Project: To Demonstrate and Evaluate a Pre-college Personal Adjustment and Orientation Training Course for Blind Prospective College Students

Grantee Agency: Arkansas Enterprises for the Blind
S. W. Rehabilitation Center for the Blind
2811 Fair Park Blvd., Little Rock, Arkansas 72204
Project Director: J. D. Murphy
Interest Category: Prevocational-Processes
Dates of Project: 1963 - 3 years
Final Report: Murphy, J. O., *College Preparation of Blind Prospective College Students*. Published final report, March 1967.
Cost: $37,857

RD-1241 (DSB-79)
Title of Project: Optical Aids Clinic

Grantee Agency: Eye Research Foundation of Bethesda
4806 Rugby Ave., Bethesda, Maryland 20014
Project Director: William N. Hart, M.D.
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1964 - 3 years
Final Report: Hart, William N., M.D.; Bernstein, Howard M.; and Eudry, William R.; *Optical Aids Clinics*. Unpublished final report, August 1966.
Cost: $30,228

RD-1296 (DSB-80)
Title of Project: Experimental Community Oriented Rehabilitation Center for "Vocationally Unfeasible" Blind Persons with Multiple Disabilities

Grantee Agency: Cleveland Society for the Blind
1958 East 93rd St., Cleveland, Ohio 44106
Project Director: Cleo B. Dolan
Interest Category: Prevocational-Centers
Dates of Project: 1965 - 4 years
Final Report: Dolan, Cleo B., *An Experimental Community-Oriented Rehabilitation Center Program for "Vocationally Unfeasible" Blind Persons with Multiple Disabilities*. Unpublished final report, 1969.
Cost: $124,469

RD-1306 (DSB-81)
Title of Project: An Industrial Workshop-Homework Demonstration for the Vocational Rehabilitation of the Older Blind

Grantee Agency: Services to the Blind Division of Welfare
State House Annex, Concord, New Hampshire 03301
Project Director: Carl Camp

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RD-1306 (DSB-81) *(Continued)*

Interest Category: Vocational
Dates of Project: 1965 - 3 years
Final Report: Camp, Carl, *An Industrial Workshop-Homework Demonstration for the Vocational Rehabilitation of the Older Blind and the Multiple Handicapped Blind in the State of New Hampshire*. Unpublished final report, August 1968.
Cost: $62,616

RD-1325 (DSB-82)

Title of Project: Systematic Teaching of Mobility to Blind People

Grantee Agency: Minneapolis Society for the Blind
1936 Lyndale Ave., So., Minneapolis, Minn. 55411
Project Director: Melvin E. Saterbak
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1964 - 3 years
Final Report: Saterbak, Melvin E., *Demonstration of Orientation and Mobility Techniques in Rehabilitation*. Published final report, 1970.
Cost: $21,955

RD-1327 (DSB-83)

Title of Project: Low Vision Clinic for the Visually Handicapped

Grantee Agency: Hawaii State Center for the Blind and Visually Handicapped
P. O. Box 339, Honolulu, Hawaii 96809
Project Director: Mrs. Yasuloo Takemoto
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1964 - 3 years
Final Report: Takemoto, Yasuko, and Egi, Jane, *Low Vision Clinic for Individuals Who Are Severely Visually Handicapped*. Published final report, September 1967.
Cost: $42,160

RD-1328 (DSB-84)

Title of Project: Mobility and Orientation Instruction of Blind People

Grantee Agency: Arkansas Enterprises for the Blind
2811 Fair Park Blvd., Little Rock, Arkansas 72204
Project Director: Roy Kumpe
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1964 - 3 years
Final Report: Kumpe, Roy, *The Mobility and Orientation Instruction of Blind People*. Unpublished final report, October 1966.
Cost: $26,247

RD-1330 (DSB-85)
Title of Project: To Determine the Impact on Rehabilitation of the Blind of a Psychiatrist in the Key Role in a Rehabilitation Center for the Blind

Grantee Agency: Catholic Guild for All the Blind
Chicago, Illinois 60606
Project Director: Thomas E. Caulfield, M.D.
Interest Category: Prevocational-Centers
Dates of Project: 1963 - 1 year
Final Report: Subsumed in RD-1487 (DSB-102)
Cost: $19,826

RD-1336 (DSB-86)
Title of Project: Trade School as Regional Facility for Training Blind Students

Grantee Agency: North Dakota School of Science
Wahpeton, North Dakota 58075
Project Director: James A. Horton
Interest Category: Vocational
Dates of Project: 1964 - 4 years
Final Report: Horton, James A., and Borchert, C. R., *The Feasibility of Using a Well Organized Trade School as a Regional Facility for Training Blind Students*. Unpublished final report, January 1968.
Cost: $145,899

RD-1342 (DSB-87)
Title of Project: Mobility and Orientation Instruction of the Blind

Grantee Agency: South Dakota Services to the Blind and Visually Handicapped, State Capitol Bldg., Pierre, S.D. 57704
Project Director: Leroy C. Larsen
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1964 - 3 years
Final Report: Doberty, John, *Mobility and Orientation of the Blind*. Unpublished final report, 1967.
Cost: $9,080

RD-1343 (DSB-88)
Title of Project: Orientation and Mobility Service for Legally Blind Persons

Grantee Agency: Cincinnati Association for the Blind
1548 Central Parkway, Cincinnati, Ohio 45214
Project Director: Benjamin P. Groves
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1965 - 3 years
Final Report: Groves, B. P., *Orientation and Mobility Service for Legally Blind Persons Living in Five Counties in Ohio and Kentucky*. Published final report, October 1967.
Cost: $23,607

RD-1344 (DSB-89)
Title of Project: Optical Aids Clinic

Grantee Agency: Marquette University School of Medicine
561 North 15th St., Milwaukee, Wisconsin 53233
Project Director: John Hitz, M.D.
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1964 - 3 years
Final Report: Hitz, John B., *Rotary Low Vision Clinic*. Published final report, February 1967.
Cost: $40,152

RD-1346 (DSB-90)
Title of Project: Mobility and Orientation of Blind Persons

Grantee Agency: Rochester and Monroe Association for the Blind
439 Monroe Ave., Rochester, New York 14607
Project Director: James E. Ryder
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1964 - 3 years
Final Report: Ryder, James E., and Luini, Eugene, *Mobility and Orientation Instruction of Blind Persons*. Published final report, March 1967.
Cost: $23,700

RD-1382 (DSB-91)
Title of Project: The Visual Response of the Partially Seeing

Grantee Agency: Eye Research Foundation of Bethesda
4806 Rugby Ave., Bethesda, Maryland 20014
Project Director: Robert H. Peckham
Interest Category: Prevocational-Processes-Testing
Dates of Project: 1964 - 3 years
Final Report: Peckham, Robert H., *The Visual Responses of the Partially Sighted*. Unpublished final report, October 1966.
Cost: $107,274

RD-1383 (DSB-92)
Title of Project: A Pilot Test of the Construction and Evaluation of a Diagnostic Test of Grade 2 Braille Misperceptions

Grantee Agency: Boston University
700 Commonwealth Ave., Boston, Massachusetts 02115
Project Director: Leo F. Hanley
Interest Category: Prevocational-Processes-Testing
Dates of Project: 1964 - 1 year
Final Report: Hanley, Leo F., *A Diagnostic Test of Grade 2 Braille Misperceptions: A Pilot Study*. Unpublished final report, October 1965.
Cost: $10,514

RD-1406 (DSB-93)
Title of Project: A Comprehensive Planning Study for Mobility Instruction in the Schools of Los Angeles County

Grantee Agency: Los Angeles State College Foundation
5151 State College Dr., Los Angeles, Calif. 90032
Project Director: F. E. Lord, Ph.D.
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1964 - 1 year
Final Report: Lord, F. E.; Blaha, Lawrence; and Manshardt, Clarice E.; *A Planning Study for Orientation and Mobility Instruction in the Schools of Los Angeles County*. Unpublished final report, September 1965.
Cost: $22,378

RD-1407 (DSB-94)
Title of Project: International Research Information Service (IRIS)

Grantee Agency: American Foundation for the Blind
15 West 16th St., New York, N. Y. 10011
Project Director: Milton D. Graham
Interest Category: Personnel
Dates of Project: 1964 - 5 years
Final Report: Clark, Leslie L., *An International Research and Information Service for the Blind*. Unpublished final report, January 1966.
Cost: $101,929

Publications Emanating from RD-1407:

Research Bulletins No. 1-19, 1962-69, edited by Leslie Clark.

Bibliography of Mobility Research and Mobility Instrumentation Research (Provisional Bibliography), edited by Leslie Clark. December 1964.

Proceedings of the Symposium on Research in Blindness and Severe Visual Impairment, edited by Leslie Clark. May 1964.

R. — *Annual Report for Fiscal 1964 of the Department of Educational Research American Printing House for the Blind*, Carson Y. Nolan. November 1964.

Problems in Cutaneous Communication from Psychophysics to Information Center, B. Von Haller Gilmer. March 1966.

Proceedings of the Rotterdam Mobility Research Conference, edited by Leslie L. Clark. May 1965.

Proceedings of the West Coast Regional Conference on Research Related to Blind and Severely Impaired Children. December 1965.

Psychoanoustics – A Selected Bibliography (A Provisional Bibliography). Kenneth Dimmick, March 1966.

Research Index, Vols. 1-3, 1967. Quarterly Supplements, 1968-69.

Adjustment to Blindness and Severe Visual Impairment: A Selected Bibliography, Dr. Robert A. Scott. July 1967.

Electrical Stimulation of the Skin – A Selected Bibliography, Dr. Robert H. Gibson. July 1967.

✓ RD-1412 (DSB-95)
Title of Project: Production of Haptic Intelligence Scale Test Kits with Manual and Record Forms

Grantee Agency: Illinois Institute of Technology Center
Chicago, Illinois 60616
Project Director: Harriet C. Shurrager, Ph.D.
Interest Category: Prevocational-Processes-Testing
Dates of Project: 1964 - 1 year
Final Report: Shurrager, Harriet C., and Phil S., *Haptic Intelligence Scale for the Blind.* Published final report, 1964.
Cost: $37,809

✓ RD-1415 (DSB-96)
Title of Project: Establishment of a Systematic Program of Mobility Instruction for Blind Persons in the District of Columbia

Grantee Agency: D. C. Department of Vocational Rehabilitation
819 Ninth St., N.W., Washington, D. C. 20001
Project Director: Stephen A. Gambaro
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1964 - 3 years
Final Report: Gambaro, Stephen A., and Thompson, William C., *Establishment of a Systematic Program of Mobility Instruction for Blind Persons in the District of Columbia.* Published final report, August 1967.
Cost: $64,200

RD-1420 (DSB-97)
Title of Project: 1964 World Assembly of the World Council for the Welfare of Blind

Grantee Agency: American Foundation for Overseas Blind
22 West 17th St., New York, N. Y. 10011
Project Director: Eric T. Boulter
Interest Category: Personnel
Dates of Project: 1964 - 1 year

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RD-1420 (DSB-97) *(Continued)*
Final Report: Boulter, Eric T., *Proceedings of the World Assembly of the World Council for the Welfare of the Blind*. Published final report, January 1965.
Cost: $17,000

RD-1436 (DSB-98)
Title of Project: Planning Grant to Consider Need and Feasibility of Establishing a Regional Rehabilitation Center for the Blind

Grantee Agency: Columbia Lighthouse for the Blind
2021 - 14th St., N.W., Washington, D. C. 20002
Project Director: J. Arthur Johnson
Interest Category: Prevocational-Centers
Dates of Project: 1964 - 1 year
Final Report: Coughlan, Barbara G., *The Feasibility of a Regional Center*. April 1964.
Cost: $4,778

RD-1445 (DSB-99)
Title of Project: Mobility and Orientation Instruction of Blind People

Grantee Agency: Vocational Rehabilitation Division
State Capitol, Charleston, West Virginia 25305
Project Director: Earl A. Wolfe
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1966 - 3 years
Final Report: Casto, W. A., *Orientation and Mobility Instruction of Blind People in West Virginia*. Published final report, July 1968.
Cost: $25,925

RD-1480 (DSB-100)
Title of Project: Comprehensive Adjustment Services for the Blind

Grantee Agency: Rehabilitation Institute
261 Brady St., Detroit, Michigan
Project Director: Joseph M. Schaeffer, M.D.
Interest Category: Prevocational-Centers
Dates of Project: 1964 - 5 years
Final Report: Schaeffer, Joseph M., M.D., *Comprehensive Adjustment Services for the Blind*. October 1969.
Cost: $195,750

RD-1485 (DSB-101)
Title of Project: Training of the Blind for Professional Computer Work

Grantee Agency: University of Cincinnati
College of Medicine, Cincinnati, Ohio 45221
Project Director: Theodore Sterling

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RD-1485 (DSB-101) (*Continued*)
Interest Category: Vocational
Dates of Project: 1964 - 3 years
Final Report: Sterling, Theodore D., and Pollack, Seymour, *Training of the Blind for Professional Computer Work.* Unpublished final report, September 1967.
Cost: $170,711

RD-1487 (DSB-102)
Title of Project: Impact on Rehabilitation of Blind Persons of Placing a Full-time Psychiatrist in the Key Role in a Rehabilitation Center

Grantee Agency: Catholic Guild for All the Blind
770 Centre St., Newton, Massachusetts 02158
Project Director: Rev. Thomas J. Carroll
Interest Category: Prevocational-Centers
Dates of Project: 1964 - 3 years
Final Report: Carroll, Rev. Thomas J., *The Impact of Rehabilitation of Blind Persons of Placing a Full-time Psychiatrist in the Key Role in a Rehabilitation Center for the Blind.* Unpublished final report, May 1967.
Cost: $82,880

RD-1511 (DSB-103)
Title of Project: Mobility and Orientation Instruction of Blind People

Grantee Agency: New Mexico Department of Public Welfare
Division of Services for the Blind
408 Galisteo St., Santa Fe, New Mexico 87501
Project Director: H. J. Hebbeln
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1964 - 3 years
Final Report: Hebbeln, H. J., *Mobility and Orientation for the Blind.* Unpublished final report, July 1965.
Cost: $15,695

RD-1512 (DSB-104)
Title of Project: Planning Meeting by the Association of Computing Machinery

Grantee Agency: Association of Computing Machinery
21 East 43rd St., New York, N. Y. 10017
Project Director: Theodore D. Sterling, Ph.D.
Interest Category: Vocational
Dates of Project: 1964 - 1 year
Final Report: Sterling, Theodore D., *The Blind in E.D.P.* Published final report, 1965.
Cost: $800

RD-1530 (DSB-105)
Title of Project: A Project to Plan for a Comprehensive Rehabilitation Center for the Blind

Grantee Agency: Community Services for the Blind
Suite 317, Atlanta National Bldg.
50 Whitehall St., S.W., Atlanta, Georgia 30303
Project Director: Oscar Turk
Interest Category: Prevocational-Centers
Date of Project: 1964 - 1 year
Final Report: *A Comprehensive Rehabilitation Center for the Blind.* Unpublished final report, 1965.
Cost: $14,782

RD-1531 (DSB-106)
Title of Project: Planning Study of Housing Facilities for Blind Persons in Minneapolis and Hennepin County

Grantee Agency: Minneapolis Society for the Blind
1936 Lyndale Ave., So., Minneapolis, Minn. 55411
Project Director: Mrs. Lee Johnston
Interest Category: Prevocational-Processes
Dates of Project: 1964 - 1 year
Final Report: Johnston, Mrs. Lee, *Housing Needs of Blind Persons in Minneapolis and Hennepin County, Minnesota.* Unpublished final report, 1965.
Cost: $15,000

RD-1538 (DSB-107)
Title of Project: Mobility and Orientation Instruction of Blind People

Grantee Agency: Evansville Association for the Blind
510 Second Ave., Evansville, Indiana 47710
Project Director: John K. Flake
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1965 - 3 years
Final Report: Kern, Frank, *A State Mobility and Orientation Program.* Unpublished final report, 1970.
Cost: $35,402

RD-1539 (DSB-108)
Title of Project: Mobility and Orientation Instruction for Blind Persons

Grantee Agency: Rhode Island Association for the Blind
39-40 Arcade Bldg., Providence, R. I. 02905
Project Director: Mrs. Helen M. Worden
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1965 - 3 years
Final Report: Worden, H. W., *Mobility and Orientation Instruction for the Blind.* Published final report, January 1968.
Cost: $29,890

RD-1541 (DSB-109)
Title of Project: Harris County, Texas Mobility and Orientation Instruction of Blind Children and Adults

Grantee Agency: Houston-Harris County Lighthouse for the Blind
3530 W. Dallas, Houston, Texas 77003
Project Director: Robert W. Carrick
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1965 - 3 years
Final Report: Rougagnac, Jeri, and Kean, J. E., *Harris County, Texas Mobility and Orientation Instruction of Blind Children and Adults*. Unpublished final report, 1968.
Cost: $18,898

RD-1542 (DSB-110)
Title of Project: Low Vision Lens Service for Partially Sighted Persons Living in 5 Counties in Ohio and Kentucky

Grantee Agency: Cincinnati Association for the Blind
1548 Central Ave., Cincinnati, Ohio 45214
Project Director: Benjamin P. Groves
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1965 - 3 years
Final Report: Groves, B. P., *Greater Cincinnati Low Vision Lens Services for Partially Sighted Persons Living in Five Counties in Ohio and Kentucky*. Published final report, November 1967.
Cost: $28,620

? RD-1571 (DSB-111)
Title of Project: Development of Raised Line Drawings as Supplementary Tools in the Education of the Blind

Grantee Agency: Recording for the Blind
121 East 58th St., New York, N. Y. 10022
Project Director: Burham Carter
Interest Category: Equipment
Dates of Project: 1965 - 2 years
Final Report: Schiff, W., *Using Raised Line Drawing as Tactual Supplements to Recorded Books for the Blind*. Unpublished final report, June 1967.
Cost: $38,165

RD-1578 (DSB-112)
Title of Project: Pre-College Orientation of Blind High School Graduates

Grantee Agency: State University of New York
Albany, New York 12203
Project Director: Leo Jivoff
Interest Category: Prevocational-Processes
Dates of Project: 1964 - 3 years

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RD-1578 (DSB-112) *(Continued)*
Final Report: Jivoff, Leo, *Pre-College Orientation of Blind High School Graduates*. Unpublished final report, June 1967.
Cost: $56,822

RD-1612 (DSB-113)
Title of Project: A Test of Intellectual Potential of Blind People

Grantee Agency: Alabama Institute for Deaf and Blind
Talladega, Alabama 35160
Project Director: A. R. Bishop
Interest Category: Prevocational-Processes-Testing
Dates of Project: 1965 - 1 year
Final Report:

Cost: $1,611

RD-1616 (DSB-114)
Title of Project: Mobility and Orientation Instruction of Blind People

Grantee Agency: State Department of Education
Division of Vocational Rehabilitation
129 State Office Bldg., Atlanta, Georgia 30334
Project Director: A. P. Jarrell
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1965 - 3 years
Final Report: Jarrell, A. P., *Mobility and Orientation Instruction of Blind People*. Unpublished final report, November 1967.
Cost: $26,097

RD-1618 (DSB-115)
Title of Project: A Project to Plan the Construction of a Comprehensive Rehabilitation Center for the Blind

Grantee Agency: Florida Council for the Blind
108 W. Pensacola St., Tallahassee, Fla. 32301
Project Director: Murdock Martin
Interest Category: Prevocational-Centers
Dates of Project: 1964 - 1 year
Final Report: Martin, Murdock, *The New Rehabilitation Center of the Florida Council for the Blind at Daytona Beach, Florida*. Unpublished final report, 1965.
Cost: $15,000

RD-1625 (DSB-116)
Title of Project: Stanford Ohwaki-Kohs Tactile Block-Design Intelligence Test for the Blind

Grantee Agency: Stanford University School of Medicine
Division of Rehabilitation Medicine
Palo Alto, California 94306

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RD-1625 (DSB-116) (*Continued*)
Project Director: William L. Dauterman
Interest Category: Prevocational-Processes-Testing
Dates of Project: 1965 - 3 years
Final Report: Dauterman, William L.; Suinn, Richard M.; and Shapiro, Bernice; *The Stanford Ohwaki-Kohs Tactile Block-Design Intelligence Test for the Blind.* Unpublished final report, August 1966.
Cost: $67,373

RD-1626 (DSB-117)
Title of Project: Adapting the Randolph-Sheppard Vending Stand Program to the Advances of Automation

Grantee Agency: Division of Services to the Visually Impaired
Department of Vocational Rehabilitation
819 - 9th St., N.W., Washington, D. C. 20010
Project Director: Stephen A. Gambaro
Interest Category: Vocational
Dates of Project: 1965 - 2 years
Final Report: Thompson, W. W., *Adapting the Randolph-Sheppard Vending Stand Program to the Advances of Automation.* Published final report, January 1968.
Cost: $61,755

RD-1641 (DSB-118)
Title of Project: Mobility and Orientation Instruction of Blind People

Grantee Agency: Tennessee School for the Blind
115 Stewarts Ferry Road, Nashville, Tenn. 37214
Project Director: Eugene J. Wood
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1965 - 3 years
Final Report: Coble, C., and Coker, D. G., *Orientation and Mobility Instruction in the Residential School and in the State Agency*. Published final report, June 1968.
Cost: $25,241

RD-1663 (DSB-119)
Title of Project: Testing the Ability of Blind to Discriminate Color and Pattern with Their Fingers

Grantee Agency: Barnard College
New York, N. Y. 10027
Project Director: Richard P. Youtz, Prof.
Interest Category: Prevocational-Processes-Testing
Dates of Project: 1965 - 1 year
Final Report: Youtz, Richard P., *Tactual Color Sense under Three Intensities of Illuminatives.* Unpublished final report, 1970.
Cost: $4,500

RD-1683 (DSB-120)
Title of Project: Production of Braille and Inkprint Editions of Textbook and Mathematics Codes

Grantee Agency: American Printing House for the Blind
1839 Frankfort Ave., Louisville, Kentucky 40206
Project Director: Marjorie S. Hooper
Interest Category: Equipment
Dates of Project: 1965 - 1 year
Final Report: Hooper, Marjorie S., *Code of Braille Textbook Formats and Techniques*. Published final report (one of two code books). Braille and Inkprint, 1965.
Nemeth, Abraham, *The Nemeth Code of Braille Mathematics and Scientific Notation*. Published final report (one of two code books). Braille and Inkprint, 1965.
Cost: $25,511

RD-1690 (DSB-121)
Title of Project: Development of Comprehensive Physical Orientation and Sensory Training for Blind School Children and Geriatric Clients

Grantee Agency: Cleveland Society for the Blind
1958 East 93rd St., Cleveland, Ohio 44106
Project Director: Cleo B. Dolan
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1965 - 3 years
Final Report: Bobetz, Giles E., *Learning Mobility in Blind Children and the Geriatric Blind*. Unpublished final report, 1967.
Cost: $23,722

RD-1691 (DSB-122)
Title of Project: Mobility and Orientation of Blind People

Grantee Agency: Blind Children's Service Center
912 W. Broadway, Fort Worth, Texas 76104
Project Director: Paul W. Antle
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1965 - 3 years
Final Report: Hafley, Floyd G., *A Mobility Program in a Service. Center*. Unpublished final report, 1970.
Cost: $16,314

RD-1692 (DSB-123)
Title of Project: Mobility Training for Blind Clients

Grantee Agency: Services for the Blind, Dept. of Social Welfare
Lewis Cass Bldg., Lansing, Michigan 48913
Project Director: Edward A. Fitting, Ph.D.
Interest Category: Prevocational-Processes-Mobility (*Continued*)

RD-1692 (DSB-123) *(Continued)*
Dates of Project: 1965 - 3 years
Final Report:
Cost: $21,732

RD-1693 (DSB-124)
Title of Project: Mobility and Orientation Instruction of Blind People

Grantee Agency: New Hampshire Association for the Blind
60 School St., Concord, New Hampshire 03301
Project Director: Edward W. Mathews
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1966 - 3 years
Final Report: Lo Guidice, D. D., and Pattin, W. E., *A State-Wide Community-Oriented Mobility and Orientation Program in New Hampshire*. Published final report, July 1968.
Cost: $64,176

RD-1750 (DSB-125)
Title of Project: Research in Vocational Adjustment to Blindness

Grantee Agency: American Center for Research in Blindness and Rehabilitation, 770 Centre Street, Newton, Massachusetts 02158
Project Director: Leo H. Riley, M.D.
Interest Category: Vocational
Dates of Project: 1965 - 1 year
Final Report:
Cost: $15,000

RD-1766 (DSB-126)
Title of Project: Planning Grant to Develop a Project Proposal to Study the Psychological and Educational Problems Involved in the Training of Computer Skills to the Blind

Grantee Agency: University of Southern California
University Park, Los Angeles, California 90007
Project Director: William H. Mitchell
Interest Category: Vocational
Dates of Project: 1965 - 1 year
Final Report: Mitchell, W.; *Computer Instruction and Training Assistance for the Blind.* Unpublished final report, August 1965.
Cost: $15,000

RD-1770 (DSB-127)
Title of Project: Orientation and Mobility Training in a Sighted Rehabilitation Center and the State School for the Blind

Grantee Agency: Special Services for the Blind
Vocational Rehabilitation Agency
Box 8117 University Station, Grand Forks, North Dakota
58202 *(Continued)*

RD-1770 (DSB-127) *(Continued)*
Project Director: Rodney Kossick
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1966 - 3 years
Final Report: Christensen, E. C., *Adjustment and Pre-Vocational Training Program for Adult Blind and Partially Seeing.* Published final report, December 1966.
Cost: $15,819

RD-1771 (DSB-128)
Title of Project: Mobility Instruction for Blind Students in Residential School
Grantee Agency: Illinois Braille and Sight Saving School
658 East State Street, Jacksonville, Illinois 62650
Project Director: Jack Hartong
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1966 - 3 years
Final Report: Jackson, Ned T. and Jack R. Hartong, *Orientation and Mobility Instruction and Sequential School for the Blind.* Dec. 1968. Unpublished final report.
Cost: $34,891

RD-1784 (DSB-129)
Title of Project: Mobility Instruction for Blind Youth Utilizing Parents, Teachers and Mobility Specialists
Grantee Agency: Department of Special Education, California State College at Los Angeles, Calif., 5151 State College Drive, Los Angeles, Calif. 90032
Project Director: F. E. Lord, Ph.D.
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1966 - 3 years
Final Report: Blaha, Lawrence E. and Francis E. Lord, *Demonstration of Home and Community Support Needed to Facilitate Mobility Instruction.* Unpublished final report.
Cost: $156,210

RD-1787 (DSB-130)
Title of Project: Demonstration Grant for Low Vision Clinic
Grantee Agency: State University of New York at Buffalo
462 Grider Street, Buffalo, New York 14215
Project Director: W. Yerby Jones
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1966 - 3 years
Final Report:
Cost: $12,244

RD-1826 (DSB-131)

Title of Project: Vocational Adjustment to Failing Vision.

Grantee Agency: American Center for Research in Blindness and Rehabilitation,
770 Centre Street, Newton, Massachusetts 02158

Project Director: Christine Kris, Ph.D.

Interest Category: Prevocational-Processes-Testing

Dates of Project: 1965 - 1 year

Final Report: *Electro-Autographie Predictors of Diebetic Retinopathy* Proceedings of the 14th International Conference on Asian Electro-Retinopathy. 1960

Cost: $27,682

RD-1836 (DSB-132)

Title of Project: Development of Standards for Specialized Agencies Serving Blind Persons.

Grantee Agency: American Foundation for the Blind
15 West 16th Street, New York, N. Y. 10011

Project Director: Alexander F. Handel

Interest Category: Personnel

Dates of Project: 1965 - 1 year

Final Report: Handel, Alexander F., *The COMSTAC REPORT: Standards for Strengthened Services.* Published final report, 1966.

Cost: $65,352

RD-1843 (DSB-133)

Title of Project: Demonstration of the Effect of Mobility Training in Preparing Blind High School Students and Other Blind Applicants for Rehabilitation Services in Prince Georges and Montgomery Counties

Grantee Agency: Division of Vocational Rehabilitation
State Department of Education
2100 Guilford Avenue, Baltimore, Maryland 21218

Project Director: George W. Keller

Interest Category: Prevocational-Processes-Mobility

Dates of Project: 1966 - 3 years

Final Report: Postponed one year.

Cost: $25,597

RD-1846 (DSB-134)

Title of Project: Establishing An Optical Aids Clinic

Grantee Agency: Oregon Commission for the Blind
535 S.E. 12th Avenue, Portland, Oregon 97214

Project Director: K. Nolen Tanner, M.D.

Interest Category: Prevocational-Processes-Optical Aids

Dates of Project: 1967 - 3 years

Final Report:

Cost: $35,322

✓ RD-1898 (DSB-135)
Title of Project: Salaries for Selected Occupations in Services for the Blind, January 1966.

Grantee Agency: American Foundation for the Blind
15 West 16th Street, New York, N. Y. 10011
Project Director: Harold G. Roberts
Interest Category: Personnel
Dates of Project: 1966 - 2 years
Final Report: Robert, Harold G. and Colingwood, Hueston, *Survey of Salaries in Services for the Blind. January 1966.* Unpublished final report (Part I of three parts), March 1967.
Cost: $20,000

RD-1901 (DSB-136)
Title of Project: Placing the Blind and Visually Handicapped in Industrial, Clerical and Service Occupations

Grantee Agency: Office for the Blind Department of Public Welfare
Health and Welfare Bldg. Rm 102
Harrisburg, Pennsylvania 17126
Project Director: Norman M. Yoder
Interest Category: Vocational
Dates of Project: 1966 - 1 year
Final Report: Yoder, Norman M., *A Research Project Related to the Placement of the Blind in Professional, Clerical, Industrial and Service Occupations.* Unpublished final report, October 1967.
Goldberg, Maxwell H., *Blindness Research.* Pennsylvania State Press, 1969.
Cost: $58,350

RD-1906 (DSB-137)
Title of Project: Psychosocial Factors in the Vocational Rehabilitation of the Blind

Grantee Agency: Social Science Research Center
University of Puerto Rico, Rio Piedras, Puerto Rico 00931
Project Director: Carlo Albizu Miranda, Ph.D.
Interest Category: Vocational
Dates of Project: 1966 - 3 years
Final Report:
Cost: $135,005

RD-1908 (DSB-138)
Title of Project: Testing a Portable Disc Player Especially for Use by Blind Students

Grantee Agency: Recording for the Blind, Inc.
215 East 58th Street, New York, N. Y. 10022 *(Continued)*

RD-1908 (DSB-138) (*Continued*)
Project Director: Jasha Levi
Interest Category: Equipment
Dates of Project: 1966 - 1 year
Final Report: Levi, Jasha; *RFB Portable Disc Player.* Unpublished final report, August, 1969.
Cost: $29,250

RD-1951 (DSB-139)
Title of Project: A Study of the Educational Psychological, and Psychometric Factors Pertinent to the Selection, Training and Vocational Adjustment of Blind Computer Programmers

Grantee Agency: Computer Sciences Laboratory
University of Southern California
University Park, Los Angeles, California 90007
Project Director: William H. Mitchell
Interest Category: Vocational
Dates of Project: 1966 - 1 year
Final Report:
Cost: $15,229

RD-1956 (DSB-140)
Title of Project: Demonstration of the Significant Achievements in the Vocational Adjustment of Blind Persons Through the Provision of Specialized Services

Grantee Agency: Minneapolis Society for the Blind
1936 Lyndale Ave., S. Minneapolis, Minn. 55411
Project Director: Byron M. Smith
Interest Category: Prevocational-Centers
Dates of Project: 1966 - 3 years
Final Report:
Cost: $133,598

RD-1969 (DSB-141)
Title of Project: Early Rehabilitation Services for the Newly Blinded

Grantee Agency: The Jewish Guild for the Blind
1880 Broadway, New York, N. Y. 11207
Project Director: Anne McGuire
Interest Category: Prevocational-Processes
Dates of Project: 1965 - 1 year
Final Report: McGuire, M. Anne and Sillen, Janet (Mrs.), *Early Rehabilitation Services for the Blind.* Unpublished final report of Pilot Study, June 1966.
Cost: $15,000

RD-1974 (DSB-142)
Title of Project: Prototype-Low Vision Aid Clinic

Grantee Agency: Department of Ophthalmology, State University of New York
Upstate Medical Center, 766 Irving Ave., Syracuse, N. Y.
13210
Project Director: James L. McGraw, M.D.
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1966 - 3 years
Final Report: McGraw, James L., *Low Vision Aid Clinic.* Unpublished final report, February 1970.
Cost: $12,143

RD-2012 (DSB-143)
Title of Project: Regional Saturation of Services to the Blind in Metropolitan Pittsburgh

Grantee Agency: Metropolitan Pittsburgh Agencies for the Blind
201 North Bellefield, Pittsburgh, Pennsylvania 15213
Project Director: Donald D. Dauwalder
Interest Category: Vocational
Dates of Project: 1966 - 1 year
Final Report: Dauwalder, Donald D., *An Inventory and Analysis of Services for the Blind in Metropolitan Pittsburgh.* Unpublished final report, June 1967.
Cost: $14,800

RD-2026 (DSB-144)
Title of Project: Establishment of An Optical Aids Clinic

Grantee Agency: University of Tennessee, College of Medicine
62 South Dunlay, Memphis, Tennessee 38103
Project Director: Roger L. Hiatt, M.D.
Interest Category: Prevocational-Processes-Optical Aids
Dates of Project: 1966 - 3 years
Final Report: Hiatt, Rover L., M.D., *Vocational Rehabilitation of the Legally Blind and Visually Handicapped through Establishment of an Optical Aids Clinic.* March, 1969. Unpublished final report.
Cost: $12,397

RD-2029 (DSB-145)
Title of Project: Preparation of Blind Students for Vocational Rehabilitation Services

Grantee Agency: Florida Council for the Blind
108 West Pensacola, Tallahassee, Florida 32301
Project Director: G. J. Emanuele
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1966 - 1 year

(*Continued*)

RD-2029 (DSB-145) (*Continued*)
Final Report: Emanuele, G. J.; De Marco, C. and Wardell, K., *Preparation of Blind Students for Vocational Rehabilitation Through Early Training in Mobility and Orientation.* Published final report, April 1968.
Cost: $23,974

RD-2030 (DSB-146)
Title of Project: Construction and Evaluation of an Individual Diagnostic Test of Braille Perceptive Ability

Grantee Agency: Boston University, 755 Commonwealth Avenue
Boston, Massachusetts 02115
Project Director: Leo F. Hanley, Ph.D.*
Interest Category: Prevocational-Processes-Training
Dates of Project: 1966 - 1 year
Final Report: Extension granted pending publication of manual
Cost: $38,060

RD-2049 (DSB-147)
Title of Project: Proficiency of Assessment of Tape Duplicator Technicians

Grantee Agency: Virginia Commission for Visually Handicapped
3003 Parkwood Avenue, Richmond, Virginia 23221
Project Director: William T. Coppage
Interest Category: Vocational
Dates of Project: 1966 - 1 year
Final Report: Navis, E. M., *To Assess the Proficiency of the Blind as Tape Duplicator Operators.* Published final report, September 1968.
Cost: $41,581

RD-2064 (DSB-148)
Title of Project: Preliminary Studies of Feasibility of Electrocortical Prostheses

Grantee Agency: Albert Einstein College of Medicine
Yeshiva University 10461
Project Director: H. G. Vaughan, Jr., M.D. and Herbert Schimmel
Interest Category: Equipment
Dates of Project: 1966 - 1 year
Final Report: Subsumed in RD-2667 (DSB-169)
Cost: $48,680

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*Now at Boston State College, 625 Huntington Avenue, Boston, Mass. 02115.

RD-2065 (DSB-149)
Title of Project: Mobility Training for Mentally Retarded Blind

Grantee Agency: Boston College
Chestnut Hill, Massachusetts 02167
Project Director: John R. Eichorn
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1966 - 3 years
Final Report: Eichorn, John R., *Teaching Orientation and Mobility to the Mentally Retarded Blind.* February, 1969
Cost: $65,864

RD-2174 (DSB-150)
Title of Project: Postural Determinants and Mobility Rehabilitation in the Blind

Grantee Agency: Department of Children and Family Services
404 New State Office Building
Springfield, Illinois 62706
Project Director: Douglas E. Inkster
Interest Category: Prevocational-Processes-Mobility
Dates of Project: 1966 - 1 year
Final Report: Inkster, D. E. and Siegel, I. M., *Postural Determinants and Mobility Rehabilitation in the Blind.* Unpublished final report, April 1968.
Cost: $13,000

RD-2185 (DSB-151)
Title of Project: Experimental Exhibit for the Blind

Grantee Agency: Smithsonian Institution
Washington, D. C. 20560
Project Director: Charles Blitzer
Interest Category: Prevocational-Processes
Dates of Project: 1966 - 1 year
Final Report: Blitzer, Charles, *The Four Senses,* (*Experimental Museum Exhibit for the Blind.*) Unpublished final report, April 1968
Cost: $15,000

RD-2287 (DSB-152)
Title of Project: Design of Tactual Illustrations for the Blind

Grantee Agency: University of Maryland
College Park, Maryland 20742
Project Director: Joseph W. Wiedel
Interest Category: Equipment
Dates of Project: 1966 - 1 year

(*Continued*)

RD-2287 (DSB-152) *(Continued)*
Final Report: Wiedel, Joseph W., *Development and Standardization of Symbols and Improvement in the Design of Factual Illustrations for the Blind.* Unpublished final report. July 1967.
Cost: $3,710

RD-2318 (DSB-153)
Title of Project: Translation of Print to Tactual Materials

Grantee Agency: Research Laboratories for the Engineering Sciences
University of Virginia, Charlottesville, Virginia 29903
Project Director: J. W. Moore, Ph.D. and E. S. McVey, Ph.D.
Interest Category: Equipment
Dates of Project: 1967 - 1 year
Final Report: McVey, E. S.; Moore, J. W. and Ramey, R. L., *Development of a Personal Print Reader for the Blind.* Unpublished final report, January 1968.
Cost: $14,918

RD-2405 (DSB-154)
Title of Project: Employment of Multiple Handicapped Blind Person

Grantee Agency: National Industries for the Blind
50 West 44th Street, New York 10036
Project Director: R. C. Goodpasture
Interest Category: Vocational
Dates of Project: 1967 - 1 year
Final Report: Hanger, J. W., *Remunerative Employment of Multiple Handicapped Blind Persons.* Unpublished final report, May 1967.
Cost: $10,200

RD-2406 (DSB-155)
Title of Project: Strengthening Services for the Visually Handicapped through the Application of Standards

Grantee Agency: National Accreditation Council for Agencies Serving the Blind and Visually Handicapped, Inc.
84 Fifth Avenue, New York, N. Y. 10011
Project Director: Alexander F. Handel
Interest Category: Personnel
Dates of Project: 1967 - 5 years
Final Report: Handel, A. F.; Scholl, G. T. and Collingwood, H., *Self-Study and Evaluation Guide for Residential Schools.* Published special report, 1968 edition.

Self-Study and Evaluation Guide. Published special report, 1968 edition.

RD-2406 (DSB-155) *(Continued)*
Self-Study Guide for Sheltered Workshops.
Published special report, 1968 edition.
Cost: $141,763

RD-2444 (DSB-156)
Title of Project: Development of a Visual Substitution System

Grantee Agency: Institute of Medical Sciences
2340 Clay Street, San Francisco, California 94115
Project Director: Paul Bach-y-Rita, M.D.
Interest Category: Personnel
Dates of Project: 1967 - 2 years
Final Report: Bach-y-Rite, Paul, M.D., *Seeing with the Skin.* 1969
Unpublished final report.
Cost: $61,078

RD-2469 (DSB-157)
Title of Project: Gallery for the Blind Museum of Art

Grantee Agency: North Carolina Museum of Art
Raleigh, North Carolina 27602
Project Director: Charles W. Stanford, Jr.
Interest Category: Prevocational-Processes
Dates of Project: 1967 - 1 year
Final Report: Stanford, Charles W., Jr., *Planning Operations for the Mary Duke Biddle Art Gallery for the Blind.* Unpublished final report, April 1968.
Cost: $15,000

RD-2472 (DSB-158)
Title of Project: Development of a Sheltered Workshop Laboratory to Serve Agencies for the Blind

Grantee Agency: National Industries for the Blind
50 West 44th Street
New York, N. Y. 10036
Project Director: Robert C. Goodpasture
Interest Category: Vocational
Dates of Project: 1967 - 3 years
Final Report:
Cost: $105,000

RD-2475 (DSB-159)
Title of Project: Development of Optical-to-Tactile Conversion Aids for the Blind

Grantee Agency: Stanford University, Department of Electrical Engineering,
Stanford, California 94305
Project Director: James C. Bliss, Ph.D.
Dates of Project: 1967 - 2 years

(Continued)

RD-2475 (DSB-159) *(Continued)*
Interest Category: Equipment
Final Report: Bliss, J. C., *Optical-to-Tactile Image Conversion for the Blind.* Unpublished final report. Sept., 1969
Cost: $147,145

RD-2480 (DSB-160)
Title of Project: Regional Facility Psychiatric Service for the Blind

Grantee Agency: Catholic Guild for all Blind
770 Centre Street, Newton, Massachusetts 02158
Project Director: Thomas J. Carroll
Dates of Project: 1967 - 5 years
Interest Category: Prevocational-Centers
Final Report:
Cost: $114,702

RD-2489 (DSB-161)
Title of Project: The Blind as Tax Assistors for the Internal Revenue Service

Grantee Agency: Arkansas Enterprises for the Blind, Inc.
2811 Fair Park Boulevard, Little Rock, Arkansas 72204
Project Director: J. O. Murphy
Interest Category: Vocational
Dates of Project: 1967 - 1 year
Final Report: Murphy, J. O., *Training the Blind as Taxpayers' Assistors.* Unpublished final report: Part I, November 1967.

Taxpayer Assistor Demonstration Training. Unpublished final report: Part II, March 1968

Estes, E. G., *Training the Blind as Taxpayer Assistors: Instruction Manual.* Unpublished special report, 1967.
Cost: $9,920

RD-2497 (DSB-162)
Title of Project: Analysis of Evaluation Procedure, Disability Types and Recommended Treatments of 100 Deaf-Blind Children

Grantee Agency: Syracuse University, 201 Marshall Street
Syracuse, New York 13210
Project Director: W. Scott Curtis, Ph.D. and Edward T. Donlon
Interest Category: Prevocational-Processes
Dates of Project: 1967 - 1 year
Final Report: Curtis, W. Scott and Donlon, Edward T., *An Analysis of Evaluation Procedures, Disability Types, and Recommended Treatment for 100 Deaf-Blind Children.* January, 1969. Unpublished final report.
Cost: $12,885

√ RD-2554 (DSB-163)
Title of Project: Vocational Adjustment Follow-up Study of Groups of Visually Handicapped

Grantee Agency: Regents of the University of Michigan
2008 Administration Bldg., Ann Arbor, Michigan 4810
Project Director: Geraldine T. Scholl, Ph.D.
Interest Category: Vocational
Dates of Project: 1968 - 2 years Bauman M.K., & Cristel, M.S.
Final Report: Scholl, Geraldine, Ph.D., *A Study of the Vocational Success of Groups of the Visually Handicapped.* November 1969.
Cost: $146,698

RD-2557 (DSB-164)
Title of Project: Tactual Mapping Design Production, Reading, and Interpretation

Grantee Agency: University of Maryland, Department of Geography
College Park, Maryland 20740
Project Director: Joseph W. Wiedel
Interest Category: Equipment
Dates of Project: 1967 - 2 years
Final Report: Wiedel, Joseph W. and Grove, Paula, *Tactual Mapping.* 1969.
Cost: $33,102

RD-2563 (DSB-165)
Title of Project: Postural Determinants in the Blind

Grantee Agency: Department of Children and Family Services
Room 404, New State Office Building
Springfield, Illinois 60612
Project Director: Thomas J. Murphy
Interest Category: Prevocational-Processes
Dates of Project: 1968 - 3 years
Final Report:
Cost: $23,560

RD-2602 (DSB-166)
Title of Project: Fourth Quinquennial Conference of Educators of Blind Youth

Grantee Agency: Perkins School for the Blind
175 North Beacon Street
Watertown, Massachusetts 02172
Project Director: Edward J. Waterhouse
Interest Category: Personnel
Dates of Project: 1967 - 1 year

(*Continued*)

RD-2602 (DSB-166) (*Continued*)
Final Report: Waterhouse, E. J., *Fourth Quinquennial Conference Proceedings of the International Council of Education of Blind Youth, Watertown, Massachusetts,* August 20-27, 1967. Published final report, 1968.
Cost: $50,000

RD-2603 (DSB-167)
Title of Project: Development of a Braille Medical Dictionary

Grantee Agency: Hadley School for the Blind
700 Elm Street, Winnetka, Illinois 60093
Project Director: Donald Wind Hathaway
Interest Category: Equipment
Dates of Project: 1967 - 1 year
Final Report: *Dorland's Medical Dictionary* 24th edition, Saunders & Co. 1965. 49 Volumes in Braille. Also *Braille Medical Speller,* 7 Volumes in Braille. (Taken from *Dorland's Medical Dictionary.*
Cost: $68,337

RD-2618 (DSB-168)
Title of Project: Development of A Syllabus for Instruction of Communicative Skills to the Blind

Grantee Agency: Arkansas Enterprises for the Blind
2811 Fair Park Boulevard
Little Rock, Arkansas 72204
Project Director: J. O. Murphy
Interest Category: Prevocational-Processes
Dates of Project: 1969 - 1 year
Final Report: Kumpe, Roy and Murphy, J. O., *Syllabus and its Development for Instruction of Communicative Skills in a Rehabilitation Center for the Blind,* June 1969.
Cost: $21,465

RD-2667 (DSB-169)
Title of Project: Feasibility Studies; Electrocortical

Grantee Agency: Albert Einstein College of Medicine
1300 Morris Park Avenue, Bronx, New York 10461
Project Director: Hubert G. Vaughan, M.D.
Interest Category: Equipment
Dates of Project: 1968 - 3 years
Final Report:
Cost: $72,775

RD-2689 (DSB-170)
Title of Project: Investigation of Optimum Employment Procedures in Computing

Grantee Agency: Association for Computing Machinery
211 East 43rd Street, New York, New York 10017
Project Director: T. D. Sterling
Interest Category: Vocational
Dates of Project: 1968 - 3 years
Final Report:
Cost: $25,714

RD-2819 (DSB-171)
Title of Project: Expanding Sheltered Workshop Employment Opportunities for Multi-Handicapped Persons

Grantee Agency: National Industries for the Blind
50 West 44th Street, New York, New York 10036
Project Director: Noel B. Price
Interest Category: Prevocational-Centers
Dates of Project: 1968 - 3 years
Final Report:
Cost: $174,000

RD-2867 (DSB-172)
Title of Project: Training 50 Blind Persons to Work as Taxpayer Assistors for the Internal Revenue Service

Grantee Agency: Arkansas Enterprises for the Blind
2811 Fair Park Boulevard, Little Rock, Arkansas 72204
Project Director: J. O. Murphy
Interest Category: Vocational
Dates of Project: 1969 - 1 year
Final Report:
Cost: $55,849

RD-2868 (DSB-173)
Title of Project: Development and Operation of Mary Duke Biddle Gallery for the Blind

Grantee Agency: North Carolina Museum of Arts
107 East Morgan Street, Raleigh, North Carolina 27601
Project Director: Charles W. Stanford, Jr.
Interest Category: Prevocational-Processes
Dates of Project: 1969 - 2 years
Final Report:
Cost: $49,000

RD-2877 (DSB-174)
Title of Project: Preserving and Circulating Literature Concerning Blindness

Grantee Agency: American Association of Worker for the Blind
1511 K Street, N.W., Washington, D. C. 20005 (*Continued*)

RD-2877 (DSB-174) *(Continued)*
Project Director: Isabella S. Diamond
Interest Category: Personnel
Final Report: Diamond, Isabella S., *Catalog of Blindiana,* 1968, 9, 70
Dates of Project: 1968 - 1 year
Cost: $22,000

RD-2912 (DSB-175)
Title of Project: Training and Placement of Blind Persons in Service Jobs in Hospital Settings

Grantee Agency: American Foundation for the Blind
15 W. 16th Street, New York, New York 10011
Project Director: Arthur F. Vorhees
Interest Category: Vocational
Dates of Project: 1968 - 3 years
Final Report:
Cost: $41,227

RC-3 (DSB-176)
Title of Project: Proposal for Special Training in the Russian Language of a Group of Blind Students to Acquire Competence in Transcribing and Translating Recorded Materials

Grantee Agency: Georgetown University, Machine Translation Division
1330 New Hampshire Avenue, Washington, D. C. 20036
Project Director: Leon E. Dostert, M.D.
Interest Category: Vocational
Dates of Project: 1960 - 4 years
Final Report: Dostert, Leon E., *Special Language Project's Part I Russian, Part II, German. Special Report: Intensive Language Program for the Blind.*
Cost: $290,593

RC-8 (DSB-177)
Title of Project: Sensory Measurements Research

Grantee Agency: Massachusetts Institute of Technology
Cambridge, Massachusetts 01020
Project Directors: Dwight M. Baumann, Sc.D.; Robert W. Mann, Sc.D. and T. B. Sheridan, Sc.D.
Interest Category: Equipment
Dates of Project: 1961 - 3 years
Final Report: A. Mann, R. W., Ivester, A. S. and Siemens, P. J., *Evaluation Report on Work in Progress on Sensory Aids and Prosthetics,* 1962. Unpublished report.

B. Baumann, Dwight M.; Mann, Robert W.; and Sheridan, T. B., (Principal Investigators). *Evaluation Report on Work in Progress on Sensory Aids and Prosthetics.* Unpublished report, April 1964. *(Continued)*

RC-8 (DSB-177) (*Continued*)

C. Saslow, Lester, *Tactile Communication with Air Jets,* Unpublished report, 1962.

D. Gammill, Robert C., *Braille Translation by Computer.* Unpublished report, 1962.

E. Dupress, J. D.; Baumann, D. M. B. and Mann, R. W., *Towards Making Braille as Accessible as Print.* Published special report, June 1968.

✓ F. Blanco, E. E., *Development of a Punched-Tape-To-Braille "Direct" and Continuous Mechanical Transducer.* Published special report, June 1968.

✓ G. Krigman, Alan, *A Mathematical Model of Blind Mobility.* Published special report, April 1967.

✓ H. Flowers, Woodie, *A Sound-Source Ball for Blind Children,* Published special report, June 1967.

RC-18 (DSB-178)

Title of Project: Sensory Aids and Development Center for the Blind

Grantee Agency: Massachusetts Institute of Technology
Cambridge, Massachusetts 02139
Project Director: John K. Dupress
Interest Category: Equipment
Dates of Project: 1965 - 2 years
Final Report: A. Dupress, John, *Final report for the Period 1 September through 30 September 1965.* Unpublished, October 1965.

B. Dupress, John, *Final Report for the Period 1 October through 30 November 1966.* Unpublished, April 1967.

C. Dupress, John, *Final Report for the Period 1 December 1966 through 30 November 1967.* Unpublished, Undated.

D. Prosica, Vito, *Final Report for the Period 1 December 1967 through 31 December 1968.* Unpublished, 1969.

E. Dupress, John, *Proceedings Braille Research and Development Conference.* MIT Faculty Club, November 1966.

F. Dupress, John, *Conference on New Processes for Braille Manufacture.* Ramada Inn, May 1967.

G. Dupress, John, *Proceedings Conference for Mobility Trainers and Technicians.* MIT Faculty Club, December 1967.

H. Dupress, John, *Proceedings Conference on New Processes for Braille Manufacture.* MIT Faculty Club, February 1968.

RC-22 (DSB-179)

Title of Project: Development of Teaching Methodology for Language Teachers of Sighted Students and the Training of Blind Persons to be Foreign Language Teachers

Grantee Agency: Institute of Languages and Linguistics
Georgetown University, Washington, D. C. 20006
Project Director: R. Ross MacDonald, Ph.D.
Interest Category: Prevocational-Processes
Dates of Project: 1965 - 2 years
Final Report: Christoph, Ilse H.; Juberts, Anda, and MacDonald, R. Ross, *Two-year Program of Teacher-Training and Research on Teaching Aids for the Blind.* Unpublished final report, August 1966.

Christoph, Ilse H. and Christoph, Lutz U., *Instructional Manual for Swing Leaf Unit: The Model House.* September 1964.

Christoph, Ilse H., *Instructional Manual for Swing Leaf Unit: The Model City.* Undated.
Cost: $143,194

RC-23 (DSB-180)

Title of Project: Occidental College
1600 Campus Road, Los Angeles, California 90042

Grantee Agency: Occidental College
1600 Campus Road, Los Angeles, California 90042
Project Director: Leon Dostert, Ph.D.
Interest Category: Vocational
Dates of Project: 1965 - 1 year
Final Report:
Cost: $61,633

RC-35 (DSB-181)

Title of Project: A Contract to Facilitate the Flow of Advanced Technology Being Proposed by the Space and Defense Programs into Vocational Rehabilitation Activities

Grantee Agency: Bio-Dynamics, Inc.
207 Bent Street, Cambridge, Massachusetts 01020
Project Director: Robert E. O'Brien
Interest Category: Equipment
Dates of Project: 1965 - 1 year
Final Report: O'Brien, Robert E., *To Promote and Facilitate the Application of Technological Advances Coming from the Space and Defense Programs to Rehabilitation Research and Practice.* Unpublished final report, February 1967.
Cost: $61,464

RC-37 (DSB-182)
Title of Project: Design for an Upward Writing Device

Grantee Agency: IIT Research Institute
10 West 35th Street, Chicago, Illinois 60616
Project Director: J. A. Sullivan
Interest Category: Equipment
Dates of Project: 1966 - 1 year
Final Report: Pape, Robert C. and Marcus, Ruth, *Design and Development of an Upward Braille Writing Device.* August 1967. Unpublished Summary report.
Cost: $63,847

RC-38 (DSB-183)
Title of Project: Development of Collapsible Cane for the Blind

Grantee Agency: IIT Research Institute
10 West 35th Street, Chicago, Illinois 60616
Project Director: Seymour Bazell, Ph.D.
Interest Category: Equipment
Dates of Project: 1967 - 1 year
Final Report: Bazell, S., *Design and Development of a Collapsible Cane.* January 1969. Unpublished final report.
Cost: $18,388

LISTING OF PROJECTS BY INTEREST CATEGORIES

I. Vocational:
RD-5; (DSB-2); RD-90 (DSB-6); RD-111 (DSB-8); RD-188 (DSB-13);
RD-428 (DSB-31); RD-475 (DSB-35); RD-539 (DSB-40); RD-567 (DSB-43);
RD-633 (DSB-48); RD-779 (DSB-55); RD-1306 (DSB-81); RD-1336 (DSB-86);
RD-1485 (DSB-101); RD-1512 (DSB-104); RD-1626 (DSB-117);
RD-1750 (DSB-125); RD-1766 (DSB-126); RD-1901 (DSB-136);
RD-1906 (DSB-137); RD-1951 (DSB-139); RD-2012 (DSB-143);
RD-2049 (DSB-147); RD-2405 (DSB-154); RD-2472 (DSB-158);
RD-2489 (DSB-161); RD-2554 (DSB-163); RD-2689 (DSB-170);
RD-2867 (DSB-172); RD-2912 (DSB-175); RC-3 (DSB-176); RC-23 (DSB-180)

II-A. Prevocational-Centers:
RD-304 (DSB-20); RD-351 (DSB-24); RD-672 (DSB-52); RD-799 (DSB-57);
RD-1296 (DSB-80); RD-1330 (DSB-85); RD-1436 (DSB-98);
RD-1480 (DSB-100); RD-1487 (DSB-102); RD-1530 (DSB-105);
RD-1618 (DSB-115); RD-1956 (DSB-140); RD-2480 (DSB-160);
RD-2819 (DSB-171)

II-B. Prevocational-Processes:
RD-31 (DSB-3); RD-96 (DSB-7); RD-132 (DSB-10); RD-157 (DSB-12);
RD-315 (DSB-21); RD-352 (DSB-25); RD-510 (DSB-37); RD-556 (DSB-41);
RD-788 (DSB-56); RD-835 (DSB-58); RD-915 (DSB-64); RD-1004 (DSB-66);
RD-1018 (DSB-67); RD-1086 (DSB-69); RD-1232 (DSB-78);
RD-1531 (DSB-106); RD-1578 (DSB-112); RD-1969 (DSB-141);
RD-2128 (DSB-151); RD-2469 (DSB-157); RD-2497 (DSB-162);
RD-2563 (DSB-165); RD-2618 (DSB-168); RD-2868 (DSB-173);
RC-22 (DSB-179)

II-C. Prevocational-Processes-Optical Aids:
RD-226 (DSB-14); RD-235 (DSB-15); RD-263 (DSB-16); RD-276 (DSB-17);
RD-277 (DSB-18); RD-348 (DSB-23); RD-398 (DSB-27); RD-399 (DSB-28);
RD-400 (DSB-29); RD-416 (DSB-30); RD-498 (DSB-36); RD-515 (DSB-38);
RD-525 (DSB-39); RD-563 (DSB-42); RD-570 (DSB-44); RD-590 (DSB-46);
RD-617 (DSB-47); RD-701 (DSB-53); RD-740 (DSB-54); RD-852 (DSB-59);
RD-876 (DSB-62); RD-1241 (DSB-79); RD-1327 (DSB-83);
RD-1344 (DSB-89); RD-1542 (DSB-110); RD-1787 (DSB-130);
RD-1846 (DSB-134); RD-1974 (DSB-142); RD-2026 (DSB-144)

II-D. Prevocational-Processes-Mobility:
RD-84 (DSB-5); RD-871 (DSB-61); RD-970 (DSB-65); RD-1082 (DSB-68);
RD-1168 (DSB-73); RD-1169 (DSB-74); RD-1179 (DSB-75);
RD-1228 (DSB-77); RD-1325 (DSB-82); RD-1328 (DSB-84);
RD-1342 (DSB-87); RD-1343 (DSB-88); RD-1346 (DSB-90);
RD-1406 (DSB-93); RD-1415 (DSB-96); RD-1445 (DSB-99);
RD-1511 (DSB-103); RD-1538 (DSB-107); RD-1539 (DSB-108);
RD-1541 (DSB-109); RD-1616 (DSB-114); RD-1641 (DSB-118);
RD-1690 (DSB-121); RD-1691 (DSB-122); RD-1692 (DSB-123);
RD-1693 (DSB-124); RD-1770 (DSB-127); RD-1771 (DSB-128);
RD-1784 (DSB-129); RD-1843 (DSB-133); RD-2029 (DSB-145);
RD-2065 (DSB-149); RD-2174 (DSB-150)

II-E. Prevocational-Processes-Testing:

RD-136 (DSB-11); RD-282 (DSB-19); RD-378 (DSB-26); RD-670 (DSB-51); RD-898 (DSB-63); RD-1094 (DSB-70); RD-1167 (DSB-72); RD-1382 (DSB-91); RD-1383 (DSB-92); RD-1612 (DSB-113); RD-1625 (DSB-116); RD-1663 (DSB-119); RD-1826 (DSB-131); RD-2030 (DSB-146)

III. Equipment:

RD-46 (DSB-4); RD-113 (DSB-9); RD-433 (DSB-32); RD-587 (DSB-45); RD-634 (DSB-49); RD-654 (DSB-50); RD-1107 (DSB-71); RD-1198 (DSB-76); RD-1571 (DSB-111); RD-1683 (DSB-120); RD-1908 (DSB-138); RD-2064 (DSB-148); RD-2287 (DSB-152); RD-2318 (DSB-153); RD-2475 (DSB-159); RD-2557 (DSB-164); RD-2603 (DSB-167); RD-2667 (DSB-169); RC-8 (DSB-177); RC-18 (DSB-178); RC-35 (DSB-181); RC-37 (DSB-182); RC-38 (DSB-183)

IV. Personnel:

RD-1 (DSB-1); RD-346 (DSB-25); RD-439 (DSB-33); RD-442 (DSB-34); RD-869 (DSB-60); RD-1407 (DSB-94); RD-1420 (DSB-97); RD-1420 (DSB-97); RD-1836 (DSB-132); RD-1898 (DSB-135); RD-2406 (DSB-155); RD-2444 (DSB-156); RD-2602 (DSB-166); RD-2877 (DSB-174)

ALPHABETICAL LISTING OF SPONSORING AGENCY

Grantee	*Project Number*
Alabama Institute for the Deaf and Blind	RD-111, RD-567, RD-1612
Alameda County School Department	RD-1168
Albert Einstein College of Medicine	RD-2064, RD-2667
American Association of Workers for the Blind	RD-869, RD-2877
American Center for Research in Blindness and Rehabilitation	RD-1750, RD-1826
American Foundation for the Blind	RD-1, RD-352, RD-439, RD-871, RD-1407, RD-1420, RD-1836, RD-1898, RD-2912, RD-634
American Printing House for the Blind	RD-587, RD-1086, RD-1683
Arkansas Enterprises for the Blind	RD-876, RD-1232, RD-1328, RD-2489, RD-2618, RD-2867
Association for the Aid of Crippled Children	RD-136, RD-788
Association of Computing Machinery	RD-1512, RD-2689
Barnard College	RD-1663
Bio-Dynamics, Inc.	RC-35
Blind Children's Service Center (Texas)	RD-1691
Blinded Veterans Association (Washington, D.C.)	RD-132
Boston College	RD-2065
Boston University	RD-1383, RD-2030
Catholic Charities (Illinois)	RD-1082
Catholic Guild for All the Blind	RD-304, RD-1330, RD-1487, RD-2480
Cincinnati Association for the Blind	RD-90, RD-1343, RD-1542
Cleveland Society for the Blind	RD-157, RD-400, RD-1296, RD-1690
Columbia Lighthouse for the Blind	RD-1436
Columbia University	RD-346
Community Services for the Blind (Georgia)	RD-1530
Computer Sciences Laboratory University of Southern California	RD-1951
C. W. Shilling Auditory Research Center	RD-510
D. C. Department of Vocational Rehabilitation	RD-1415
Department of Children and Family Services (Springfield, Illinois)	RD-2174, RD-2563
Department of Ophthalmology State University of New York	RD-1974
Department of Special Education California State College	RD-1784
Division of Services to the Visually Impaired Department of Vocational Rehabilitation (Washington, D. C.)	RD-1626
Division of Vocational Rehabilitation (Baltimore, Maryland)	RD-1843
Evansville Association for the Blind (Indiana)	RD-1538
Eye-Bank for Sight Restoration (New York)	RD-1018
Eye Research Foundation of Bethesda (Maryland)	RD-1241, RD-1382
Florida Council for the Blind	RD-1618, RD-2029
Franklin Institute (Pennsylvania)	RD-113

ALPHABETICAL LISTING OF SPONSORING AGENCY

Grantee	*Project Number*
Georgia Division of Vocational Rehabilitation	RD-5, RD-235
Georgetown University Medical Center	RD-442, RC-3
Grace-New Haven Community Hospital	RD-348
Graduate School of Social Work (Pittsburgh, Pa.)	RD-835
Hadley School for the Blind (Illinois)	RD-2603
Hawaii State Center for the Blind and Visually Handicapped	RD-1327
Houston-Harris County Lighthouse for the Blind	RD-1541
IIT Research Institute (Illinois)	RC-37, RC-38
Illinois Braille and Sight Saving School	RD-1771
Illinois Institute of Technology	RD-282, RD-1412
Indiana University Medical Center	RD-263
Industrial Home for the Blind	RD-96, RD-315, RD-1004
Institute of Languages and Linguistics Georgetown University	RC-22
Institute of Medical Sciences	RD-2444
Jewish Guild for the Blind (New York)	RD-1969
Kansas State Department of Welfare	RD-31
Los Angeles State College Foundation	RD-1406
Marquette University School of Medicine	RD-1344
Maryland Workshop	RD-654
Massachusetts Institute of Technology	RC-8, RC-18
McCook Memorial Hospital	RD-525
Mecklenberg County Association for the Blind	RD-1169
Metropolitan Society for the Blind	RD-1228
Metropolitan Pittsburgh Agencies for the Blind	RD-2012
Minneapolis Society for the Blind	RD-84, RD-351, RD-1325, RD-1531, RD-1956
Mississippi Division of Rehabilitation for the Blind	RD-633
Mobile General Hospital	RD-563
Montana State Department of Welfare	RD-428
National Accreditation Council for Agencies Serving the Blind and Visually Handicapped, Inc.	RD-2406
National Industries for the Blind (New York)	RD-2405, RD-2472, RD-2819
Nevada State Welfare Department	RD-590
New Hampshire Association for the Blind	RD-1693
New Mexico Department of Public Welfare	RD-1511
N. Y. Association for the Blind	RD-915
N.C. Commission for the Blind	RD-378
North Carolina Museum of Art	RD-2469, RD-2868
North Dakota School of Science	RD-1336
Occidental College (California)	RC-23
Office for the Blind Department of Public Welfare (Pennsylvania)	RD-1901
Oklahoma State Division of Vocational Rehabilitation	RD-277
Oklahoma State University	RD-672
Oregon Commission for the Blind	RD-1846
Pennsylvania Working Home for the Blind	RD-276
Perkins School for the Blind	RD-898, RD-779, RD-2602
Presbyterian Eye, Ear and Throat Charity Hospital (Baltimore, Maryland)	RD-701

ALPHABETICAL LISTING OF SPONSORING AGENCY

Grantee	*Project Number*
Purdue Research Foundation, Purdue University	RD-188
Recording for the Blind	RD-556, RD-1571, RD-1908
Regents of the University of Michigan	RD-2554
Rehabilitation Institute (Michigan)	RD-1480
Research Laboratories for the Engineering Sciences, University of Virginia	RD-2318
Rhode Island Association for the Blind	RD-398, RD-1539
Rochester and Monroe Association for the Blind	RD-1346
San Francisco Lighthouse for the Blind	RD-799
Services for the Blind Department of Social Welfare (Michigan)	RD-1692
Services to the Blind Division of Welfare (New Hampshire)	RD-1306
Sinai Hospital of Detroit	RD-852
Site, Inc. (Kansas)	RD-46
Smithsonian Institute (Washington, D.C.)	RD-2185
Social Science Research Center University of Puerto Rico	RD-1906
Society of St. Vincent de Paul (Missouri)	RD-970, RD-1179
South Dakota Services to the Blind and Visually Handicapped	RD-475, RD-1342
Special Services for the Blind	
Vocational Rehabilitation Agency (North Dakota)	RD-1770
Stanford Research Institute (Menlo Park, California)	RD-1107
Stanford University Department of Electrical Engineering	RD-2475
Stanford University School of Medicine	RD-1625
State Department of Education Division of Vocational Rehabilitation (Georgia)	RD-1616
State University of New York at Buffalo	RD-1787
State University of New York (Albany)	RD-1578
Syracuse University (New York)	RD-2497
Tennessee School for the Blind	RD-1641
Texas Technological College	RD-670
University of Cincinnati, College of Medicine	RD-1485
University of Illinois	RD-740
University of Maryland	RD-2557, RD-2287
University of Miami	
University of Mississippi	RD-515
University of Southern California	RD-1766
University of Tennessee, College of Medicine	RD-2026
University of Texas, Southwestern Medical School	RD-498
University of Wichita	RD-1094
Utah Commission for the Blind	RD-416
Vanderbilt University Hospital	RD-399
Virginia Commission for the Visually Handicapped	RD-539, RD-1198, RD-2049
Vocational Rehabilitation Division (West Virginia)	RD-1445
Washington University	RD-226
Wayne State University	RD-433
West Virginia Division of State Capitol	RD-570

ALPHABETICAL LISTING OF PROJECT DIRECTORS

Project Director	*Project Number*
Albizu-Miranda, Carlos, (Ph.D.)	RD-1906
Antle, Paul W.	RD-1691
Anderson, R. P.	RD-670
Bach-y-Rita, Paul (M.D.)	RD-2444
Barnett, M. Robert	RD-634
Bazell, Seymour, (Ph.D.)	RC-38
Bishop, A. R.	RD-1612
Bliss, James C. (Ph.D.)	RD-1107, RD-2475
Blitzer, Charles	RD-2185
Boulter, Eric T.	RD-1420
Browning, C. W. (M.D.)	RD-498
Camp, Carl	RD-1306
Cannon, R. O. (M.D.)	RD-399
Cannon, William M.	RD-378
Carkulis, Theodore	RD-428
Carrick, Robert W.	RD-1541
Carroll, Thomas J. (Rev.)	RD-2480, RD-1487
Carter Burnham	RD-556, RD-1571
Caulfield, Thomas E. (M.D.)	RD-1330
Coppage, William T.	RD-2049
Cross, J. B. (M.D.)	RD-876
Curtin, Neale R.	RD-276
Daum, Henry A.	RD-351
Dauterman, William L.	RD-1625
Dauwalder, Donald D.	RD-2012
Davis, Carl J.	RD-898
de Juan, Eugene (M.D.)	RD-563
Diamond, Isabella S.	RD-2877, RD-869
Donlon, Edward T.	RD-2497
Dolan, Cleo B.	RD-157, RD-400, RD-1296, RD-1690
Dostert, Leo E. (Dr.)	RC-3, RC-23
Dupress, John K. (Deceased)	RC-18, RD-871
Dye, Arthur M., Jr.	RD-1169
Eaton, A. H. (Deceased)	RD-352
Eichorn, John R.	RD-2065
Elsburgh, Donald E.	RD-132
Emanuele, G. J.	RD-2029
Fitting, Edward A. (Ph.D.)	RD-1692
Flake, John K.	RD-1538
Frank, Wallace E.	RD-113
Gambaro, Stephen A.	RD-1626, RD-1415
Gentry, E. H.	RD-567
Givens, W. (Ph.D.)	RD-433
Goodpasture, R. C.	RD-2405, RD-2472
Graham, Milton D. (Ph.D.)	RD-1407
Groves, Benjamin P.	RD-1542, RD-1343
Groves, Paul A. (Ph.D.)	RD-2557
Handel, Alexander F.	RD-439, RD-2406, RD-1, RD-1836
Hanley, Leo R. (Ph.D.)	RD-2030, RD-1383
Hanson, Howard H.	RD-475

ALPHABETICAL LISTING OF PROJECT DIRECTORS

Project Director	*Project Number*
Harris, L. H. (M.D.)	RD-525
Harris, J. D. (Ph.D.)	RD-510
Hart, William N. (M.D.)	RD-1241
Hartong, Jack R.	RD-1771
Hathaway, Donald Wind	RD-2603
Hebbeln, H. J.	RD-1511
Heber, Rick (Ph.D.)	RD-1167
Hiatt, Roger L. (M.D.)	RD-2026
Hitz, John (M.D.)	RD-1344
Hooper, Majorie S.	RD-1683
Hoover, R. E. (M.D.)	RD-701
Horton, James A.	RD-1336
Inkster, Douglas E.	RD-2174
Jarrell, A. P. (Ph.D.)	RD-1616, RD-235
Johnson, Daniel E. (Ph.D.)	RD-1168
Johnson, J. Arthur	RD-1436
Johnston, Lee (Mrs.)	RD-1531
Jones, W. Yerby	RD-1787
Jivoff, Leo	RD-1578
Keane, George E.	RD-96, RD-315
Keller, George W.	RD-1843
King, Robert W. (M.D.)	RD-277
Kossick, Rodney	RD-1770
Kris, Christine (Ph.D.)	RD-1826
Kumpe, Roy	RD-1328
Larsen, Leroy C.	RD-1342
Levi, Jasha	RD-1908
Lord, F. E. (Ph.D.)	RD-1406, RD-1784
Lukoff, Irving F.	RD-835
MacDonald, R. Ross (Ph.D.)	RC-22
MacFarland, D. C. (Ph.D.)	RD-1198, RD-539
Mann, Robert W. (Ph.D.)	RC-8-S
Martinez, M. (M.D.)	RD-1018
Martin, Murdock	RD-1618
Mathews, Edward W.	RD-1693
Mayo, Leonard W.	RD-136
McCollom, M. A.	RD-46
McGraw, James L. (M.D.)	RD-1974
McGuire, Anne	RD-1969
McVey, E. S. (Ph.D.)	RD-2318
Milder, Benjamin (M.D.)	RD-226
Mintz, Morris J. (M.D.)	RD-852
Mitchell, William H.	RD-1766, RD-1951
Murphy, J. D.	RD-1232
Murphy, J. O.	RD-2489, RD-2618, RD-2867
Murphy, Thomas J.	RD-2563
Nelms, F. G.	RD-5
Nolan, Carson Y. (Ph.D.)	RD-1086, RD-587
Norden, Helen M. (Mrs.)	RD-1539
Norton, Edward W. D.	RD-617

ALPHABETICAL LISTING OF PROJECT DIRECTORS

Project Director	*Project Number*
O'Brien, Robert E.	RC-35
O'Donnell, Thomas J.	RD-1179, RD-970
O'Rourke, J. F. (M.D.)	RD-442
Palacios, May H. (Dr.)	RD-1094
Peckham, Robert H. (Ph.D.)	RD-1382
Perry, Donald W.	RD-416
Philips, C. (M.D.)	RD-348
Price, Noel B.	RD-2819
Quinn, Marian C.	RD-1082
Ratchford, William S.	RD-654
Riley, Leo H. (M.D.)	RD-1750
Riviere, Maya	RD-788
Roberts, Harold G.	RD-1898
Ross, Frances (Mrs.)	RD-799
Ruiz, John	RD-590
Ryder, James E.	RD-1346
Salmon, Cuthbert F.	RD-672
Salmon, Peter J.	RD-1004
Saterbak, Melvin E.	RD-1325
Schaeffer, Joseph M. (M.D.)	RD-1480
Schimmel, Herbert (Ph.D.)	RD-2064
Scholl, Geraldine T.	RD-2554-S
Scruggs, B. Q.	RD-111
Sherman, Allan W. (Deceased)	RD-915
Shurrager, Harriett C.	RD-1412, RD-282
Smith, Byron M.	RD-1956, RD-84
Stanford, Charles W., Jr.	RD-2469, RD-2868
Sterling, T. D.	RD-2689, RD-1512, RD-1485
Sullivan, J. A.	RC-37, RD-304
Takemoto, Yasuloo (Mrs.)	RD-1327
Tanner, K. Nolen (M.D.)	RD-1846
Tiffin, Joseph (Ph.D.)	RD-188
Tinkham, Robert A.	RD-740
Turk, Oscar	RD-1530
Unkefer, Robert	RD-31
Upshaw, McAllister	RD-1228
Vaughan, Hubert G. (M.D.)	RD-2667
Vorhees, Arthur F.	RD-2912
Waterhouse, Edward J. (D.Lit.)	RD-779, RD-2602
Whiteman, Martin (Ph.D.)	RD-346
Wiedel, Joseph W.	RD-2287
Williams, Jules D.	RD-90
Williams, Raymond D.	RD-633
Wilson, Fred M. (M.D.)	RD-263
Wolfe, Earl W.	RD-570, RD-1445
Worden, H. W. (Mrs.)	RD-398
Yoder, Norman M. (Ph.D.)	RD-1901
Youtz, Richard P.	RD-1663

AUTHORS OF FINAL REPORTS WHO WERE NOT PROJECT DIRECTOR

Bergman, Moe	RD-315
Bishop, Yvonne	RD-304
Blaha, Lawrence	RD-1784
Bobertz, Giles	RD-1690
Borchert, C. R.	RD-1336
Byers, Jerome	RD-498
Carballo, James	RD-633
Carson, Y.	RD-1086
Casto, W. A.	RD-1445
Christensen, E. C.	RD-1770
Clark, Leslie	RD-634
Coble, C.	RD-1641
Cohan, Helen	RD-315
Coker, D. H.	RD-1641
Colingwood, Hueston	RD-1898
Couchell, Peter	RD-1169
Coughlan, Barbara	RD-1436
Crawford, Fred L.	RD-915
Curtis, J. F.	RD-510
Defabio, Gene A.	RD-570
DeMarco, C.	RD-2029
Dichiara, Frank W.	RD-398
Doberty, John	RD-1342
Dunlap, Jerry	RD-277
Egi, Jane	RD-1327
Flanigan, Patrick	RD-1167
Gayner, Ernest M.	RD-852
Graham, Milton D.	RD-1407
Gropper, F. K.	RD-510
Hafley, Floyd G.	RD-1691
Halopigian, N. Charles	RD-634
Hanger, J. W.	RD-2405
Hughes, Calvin T.	RD-525
Jackson, Net T.	RD-1771
Kederis, Cleves	RD-1086
Kelsey, P. A.	RD-510
Kern, Frank	RD-1538
Kossick, Rodney	RD-1770
Lisner, James W.	RD-871
Luini, Eugene	RD-1346
Lo Guidice, D. D.	RD-1693
Long, Ray	RD-1167
Lutzman, Sidney	RD-915
Malles, Irvin	RD-315
Manshardt, Claurice	RD-1406
Mathews, Edward W.	RD-1693
McKay, Evelyn	RD-315
McKoig, Ralph	RD-1169
Morris, June E.	RD-587
Navis, E. N.	RD-2049
Nester, Earl W.	RD-5
Norton, Fay-Tyler M.	RD-157
Nemeth, Abraham	RD-433
Pattin, W. E.	RD-1693
Pollack, Seymour	RD-1485
Ramey, R. L.	RD-2174
Rougagnac, Jeri	RD-1541
Russell, Dojelo C.	RD-876
Rumsey, Winfield S.	RD-799
Rusalem, Herbert	RD-315
Samuel, B.	RD-515
Schiff, W.	RD-1571
Severson, Diane C.	RD-428
Shapiro, Bernice	RD-1625
Siegel, I. M.	RD-2174
Sillen, Janet	RD-1969
Schiller, Vera	RD-315
Sprague, Welsey D.	RD-915
Stojanovic, Elizabeth	RD-633
Suinn, Richard M.	RD-1625
Thompson, William C.	RD-1415
Thompson, W. W.	RD-1626
Wardell, K.	RD-2029
Winer, D.	RD-510
Wiesner, Jerome B.	RD-634
Wood, Eugene J.	RD-1641
Wright, H. N.	RD-510
Wurzburger, Berdell	RD-1168

REHABILITATION SERVICES ADMINISTRATION
TRAINING PROJECTS – REHABILITATION OF THE BLIND
FY 1969 and 1970

RSA Grant or Contract	Sponsor	Project Director	Subject
LONG-TERM			
385-T-70	American Assoc. of Workers for the Blind, Washington, D.C. 20005	John L. Naler	Rehabilitation of the Blind.
236-T-70	Boston College Chestnut Hill, Mass. 02167	John R. Eichorn	Rehabilitation of the Blind. (Mobility Instruction)
660-T-70	California State College 5151 State College Drive Los Angeles, Calif. 90032	Robert A. Eisenberg	Rehabilitation of the Blind (Mobility Instruction)
267-T-70	Southern Illinois University Carbondale, Ill. 62901	Louis Vieceli	Rehabilitation of the Blind. (Placement)
284-T-70	Western Michigan University Kalamazoo, Michigan 49001	Donald Blasch	Rehabilitation of the Blind. (Mobility and Home Teaching)
SHORT-TERM			
767-T-69	American Foundation for the Blind 15 West 16th Street New York, N.Y. 10011	Arthur L. Voorhees	Placement of Blind in Hotel and Motels
68-T-69	American Foundation for the Blind 15 West 16th Street New York, N.Y. 10011	M. R. Barnett	Institute to plan for the employment of visually handicapped persons in rural and urban recreation programs.

236-T-69	Boston College Chestnut Hill, Mass. 02167	John R. Eichorn	Orientation of Rehabilitation Counselors to New Developments in Eye Diseases.
20-T-70	Michigan State University East Lansing, Mich. 48823	Clark E. DeHaven	Rehabilitation Training Course for a select group of newly hired vending stand supervisors.
658-T-70	Nebraska, University of Lincoln, Nebraska 68508	Virginia Trotter, Ph.D.	Training Institute for Rehabilitation Teachers of the Blind for training newly blinded homemakers.
763-T-69	New York Assoc. for the Blind 111 East 59th Street New York, N.Y. 10022	William Gallagher	Placement of Blind Persons as Teachers in Public Elementary Schools
267-T-69-70	Southern Illinois University Carbondale, Illinois 62901	Louis Vieceli	Rehabilitation of the Blind (Placement)
762-T-69	Penhurst State School & Hospital Spring City, Pa. 19475	M. Harris Schaeffer	Rehabilitation of the Mentally Retarded Blind.
25-T-70	Texas Tech. College Lubbock, Texas 79409	Beatrice Cobb, Ph.D.	Post-entry Training for Rehabilitation Interviewers and Work Evaluators.
515-T-69-70	Texas, University of Austin, Texas 78712	Giles D. Carnes	Planning for the Blind Client.
8-T-70	Virginia Commonwealth Univ. 901 West Franklin Richmond, Virginia 23220	Richard E. Hardy, Ph.D.	Rehabilitation Training and Orientation Program for Newly Hired Professional Staff.
284-T-69	Western Michigan University Kalamazoo, Mich. 49001	Donald Blasch	Seminar on Training of Mobility Aides.

SUMMARY OF TRAINING GRANTS AWARDED
REHABILITATION OF THE BLIND
FY 1969 and 1970

Institution	FY 1969	FY 1970
IN-SERVICE TRAINING GRANTS		
Arizona Services for the Blind (#33)		$ 1,000
Arizona Welfare Dept. (#33)	$ 900	
Arkansas Rehab. Services for the Blind (#88)	2,900	2,900
Conn. Board of Ed. and Services for the Blind (#14)	560	1,251
Delaware Comm. for the Blind (#47)	150	
Fla. Council for the Blind (#77)	3,800	5,800
Idaho Commission for the Blind (#90)	–	1,400
Iowa Commission for the Blind (#48)	2,093	2,200
Kansas State Dept. of Social Welfare (#19)	1,046	1,650
Maine Dept. of Health and Welfare (#27)	372	781
Mass. Commission for the Blind (#53)	–	1,725
Michigan State Dept. of Soc. Welfare (#78)	871	2,522
Minn. Services for the Blind (#49)	1,845	2,700
Miss. Rehab. Div. for the Blind (#67)	3,300	4,400
Mo. Div. of Welfare, Bur for the Blind (#80)	1,566	2,800
Montana Div. of Blind Services (#81)	600	1,600
Nebraska Dept. of Services for the Blind (#43)	823	1,300
Nevada Services to the Blind Division (#37)	1,000	1,500
New Hampshire Div. of Blind Services (#54)	353	–
New Jersey Commission for the Blind (#9)	1,500	–
New Mexico Services for the Blind (#91)	–	780
North Carolina State Commission for the Blind (#79)	2,500	4,774
Ohio Dept. of Public Welfare (#30)	2,217	–
Pennsylvania Office for the Blind, Dept. of Public Welfare (#2)	6,000	–
Rhode Island Div. of Services for the Blind (#22)	601	1,430
South Carolina Commission for the Blind (#87)	600	2,300
South Dakota Services for the Blind (#34) & Visually Handicapped	–	1,300
Tennessee Rehab. for the Blind (#68)	3,200	4,400
Texas Commission for the Blind (#11)	3,000	5,200
Vermont Div. for the Blind and Visually Handicapped (#17)	315	337
Virginia Commission for the Visually Handicapped (#70)	948	1,540
Washington State Dept. of Public Assistance (#44)	1,000	1,000
Wisconsin State Dept. of Public Assistance (#35)	264	–
TOTAL	$46,824	$58,590

SUMMARY OF TRAINING GRANTS AWARDED
REHABILITATION OF THE BLIND
FY 1969 and 1970

Institution	FY 1969	FY 1970
LONG-TERM		
American Assoc. of Workers for the Blind (#385)	$ 29,050	$ 29,750
Boston College (#236)	166,707	161,496
Calif. State College at Los Angeles (#660) (Los Angeles State College Foundation)	98,965	93,328
Southern Illinois University (#267)	38,709	36,937
Western Michigan University (#284)	201,991	209,961
TOTAL	$535,422	$531,472
SHORT-TERM		
American Foundation for the Blind, Inc. (#767-T-69)	$ 6,000	–
Michigan State University (#20-T-70)		9,270
Nebraska, University of (#658-T-70)		9,942
New York Assoc for the Blind (#763-T-69)	6,000	–
Penhurst State School and Hospital (#762-T-69)	3,000	–
Southern Illinois University (#267-T-69)	30,072	29,766
Texas Tech College (#25-T-70)	–	17,395
Texas, University of (#515-T-69-70)	6,102	6,200
Virginia Commonwealth University (#284-T-69)		23,635
Western Michigan University (#284-T-69)	10,000	–
TOTAL	$61,174	$96,208

NATIONAL EYE INSTITUTE*

Grants Related to Blindness
Currently Active

Grant number: EY 00194

Title of Project: Visual Sensitivity in Normal and Abnormal Retina

Grantee Agency: The Retina Foundation
Boston, Massachusetts
Project Director: Ernest Wolf, Ph.D.
Interest Category: Retinal Function
Dates of Project: 9/1/69 8/31/70
Final Report: NOT APPLICABLE
Cost: $29,661

Grant Number: EY 00204

Title of Project: The Etiology of Reduced Vision Function

Grantee Agency: Washington University
St. Louis, Missouri
Project Director: J. M. Enoch, Ph.D.
Interest Category: Physiological Optics
Dates of Project: 9/1/69 8/31/70
Final Report: NOT APPLICABLE
Cost: $36,635

Grant number: EY 00230

Title of Project: Comparative Study of Glaucoma

Grantee Agency: University of Iowa
Iowa City, Iowa
Project Director: Mansour F. Armaly, M.D.
Interest Category: Physiology and Pharmacology
Dates of Project: 9/1/69 8/31/70
Final Report: NOT APPLICABLE
Cost: $42,416

Grant number: EY 00239

Title of Project: Biochemical Studies on Lens Cataract Formation

Grantee Agency: University of Arkansas
Little Rock, Arkansas
Project Director: Calvin Hanna, Ph.D.
Interest Category: Biochemistry
Dates of Project: 2/1/70 1/31/71

(*Continued*)

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*See article in this issue by Dr. Carl Kupfer.

EY 00239 *(Continued)*
Final Report: NOT APPLICABLE
Cost: $14,904

Grant number: EY 00244

Title of Project: The Lipids in Experimentally-Induced Cataract Formation
Grantee Agency: Baylor University
Houston, Texas
Project Director: Gerald L. Feldman, Ph.D.
Interest Category: Ocular Biochemistry and Physiology
Dates of Project: 6/1/69 5/31/70
Final Report: NOT APPLICABLE
Cost: $32,309

Grant number: EY 00250

Title of Project: Diabetic Retinopathy

Grantee Agency: Johns Hopkins University
Baltimore, Maryland
Project Director: Arnall Patz, M.D.
Interest Category: Morphology and Retinal Sequelae of Diabetes
Dates of Project: 9/1/69 8/31/70
Final Report: NOT APPLICABLE
Cost: $31,025

Grant number: EY 00277

Title of Project: Studies of Carriers of Inherited Retinal Disorders
Grantee Agency: University of Chicago
Chicago, Illinois
Project Director: Alex E. Krill, M.D.
Interest Category: Genetics and Hereditary Transmission
Dates of Project: 1/1/70 12/31/70
Final Report: NOT APPLICABLE
Cost: $19,155

Grant number: EY 00300

Title of Project: Diabetic Retinopathy

Grantee Agency: University of Wisconsin
Madison, Wisconsin
Project Director: Matthew D. Davis, M.D.
Interest Category: Demography, Physiology and Therapy
Dates of Project: 9/1/61 8/31/70
Final Report: NOT APPLICABLE
Cost: $46,282

Grant number: EY 00304

Title of Project: Cataracts

Grantee Agency: Harvard University
Boston, Massachusetts
Project Director: Jin H. Kinoshita, Ph.D.
Interest Category: Histochemistry
Dates of Project: 8/6/69 7/31/70
Final Report: NOT APPLICABLE
Cost: $25,333

Grant number: EY 00356

Title of Project: Congenital Cataracts and Associated Anomalies

Grantee Agency: Yeshiva University
New York, New York
Project Director: Estelle Geller, D.V.M.
Interest Category: Genetics, Metabolism, Pathology
Dates of Project: 5/1/69 12/31/70
Final Report: NOT APPLICABLE
Cost: $9,110

Grant number: EY 00361

Title of Project: Nutrition's Long-Term Role in Cataract Development

Grantee Agency: UCLA School of Medicine
Los Angeles, California
Project Director: W. Jann Brown, M.D.
Interest Category: Nutritional Biochemistry
Dates of Project: 5/1/69 4/30/70
Final Report: NOT APPLICABLE
Cost: $24,119

Grant number: EY 00386

Title of Project: Behavioral Sciences and Blindness

Grantee Agency: American Center for Research in Blindness
and Rehabilitation
Newton, Massachusetts
Project Director: Thomas J. Carroll, A.B.
Interest Category: Sociological and Psychological Impact of Blindness
Dates of Project: 4/1/67 12/31/70
Final Report: NOT APPLICABLE
Cost: $150,000

Grant number: EY 00411

Title of Project: Genetic Characteristics of Defective Visual Systems

Grantee Agency: New York University
New York, New York
Project Director: Irving Brick, Ph.D.
Interest Category: Heritability and Genetic Expression
Dates of Project: 12/1/69 11/30/70
Final Report: NOT APPLICABLE
Cost: $8,448

Grant number: EY 00432

Title of Project: Hereditary and Environmental Factors in Blindness

Grantee Agency: University of Louisville
Louisville, Kentucky
Project Director: William C. Edwards, M.D.
Interest Category: Hereditary and Heuristic Correlation of Blindness and Mental Retardation
Dates of Project: 2/1/70 1/31/71
Final Report: NOT APPLICABLE
Cost: $13,715

Grant number: EY 00450

Title of Project: Research Toward a Reading System for the Blind

Grantee Agency: Stanford Research Institute
Menlo Park, California
Project Director: James C. Bliss, Ph.D.
Interest Category: Instrumentation and Row Vision
Dates of Project: 10/1/69 9/30/70
Final Report: NOT APPLICABLE
Cost: $67,490

Grant number: EY 00474

Title of Project: Parasites as Causes of Blindness

Grantee Agency: Colorado State University
Fort Collins, Colorado
Project Director: Robert W. Davis, D.V.M.
Interest Category: Parasitology and Pathology
Dates of Project: 6/1/69 5/31/70
Final Report: NOT APPLICABLE
Cost: $51,536

U.S. OFFICE OF EDUCATION RESEARCH PROGRAMS FOR VISUALLY HANDICAPPED

Bureau of Education for the Handicapped-Division of Research

Project Number: 5-0421
Title: Improvement of Tactual Symbols for the Blind
Grantee: The American Printing House for the Blind
Louisville, Kentucky
Principal Investigator: Carson Nolan
Focus: Materials, Instructional-Methods
Date of Project: 6/1/64 - 2/28/69
Final Report: Not Available
Cost: $28,600

Project Number: 5-0963
Title: A Concentrated Mobility and Orientation Approach for the Improvement of Education for Partially Seeing and Blind Children in Day School Settings.
Grantee: Kansas State Department of Public Instruction
Topeka, Kansas
Principal Investigator: Clara H. Robertson
Focus: Instructional-Methods, Administrative
Date of Project: 6/1/64 - 8/31/66
Final Report: Not Available
Cost: $18,249

Project Number: 6-2289
Title: Instructional Materials Reference Center for the Visually Handicapped
Grantee: The American Printing House for the Blind
Louisville, Kentucky
Principal Investigator: Carl W. Lappin
Focus:
Date of Project: 6/1/67 - 8/31/70
Final Report: Not Available
Cost: $459,229

Project Number: 7-0533
Title: Study of Man-Machine Communications Systems for Disabled Persons
Grantee: Cybernetics Research Institute
Washington, D.C.
Principal Investigator: Haig Kafafian
Focus: Instrumentation, Materials, Instructional-Methods
Date of Project: 6/5/67 - 8/19/72
Final Report: Not Available
Cost: $1,434,183

Project Number: 7-0701
Title: A Comprehensive Research and Demonstration Facility for the Handicapped
Grantee: Columbia University
New York, New York
Principal Investigator: Leonard S. Blackman
Focus:
Date of Project: 6/2/67 - 6/30/70
Final Report: Not Available
Cost: $4,035,400

? Project Number: 7-1112
Title: Proposal for Research and Development of Tactile Facsimile Reading Aid for the Blind
Grantee: Stanford University
Stanford, California
Principal Investigator: John G. Linvill and James C. Bliss
Focus: Instrumentation
Date of Project: 2/1/68 - 1/31/70
Cost: $572,693

Project Number: 7-1167
Title: Adaptation and Evaluation of an Informal Reading Inventory for the Blind
Grantee: Southern Illinois University
Carbondale, Illinois
Principal Investigator: Allen Berger
Focus: Tests and Measures
Date of Project: 2/2/68 - 1/31/69
Cost: $26,506

✓ Project Number: 7-1185
Title: The Development of an Expanded Reading Code for the Blind Part II
Grantee: University of Louisville
Louisville, Kentucky
Principal Investigator: Emerson Foulke
Focus: Instrumentation, Materials, Instructional-Methods
Date of Project: 9/1/67 - 8/31/70
Cost: $106,415

? Project Number: 7-1254
Title: The Development of Accelerated Speech as a Useful Communication Tool in the Education of Blind and Other Handicapped Children
Grantee: University of Louisville
Louisville, Kentucky
Principal Investigator: Emerson Foulke
Focus: Tests and Measures, Instrumentation, Materials
Date of Project: 5/1/68 - 4/30/71
Cost: $182,810

Project Number: 8-0046
Title: Aural Study Systems for the Visually Handicapped
Grantee: American Printing House for the Blind
Louisville, Kentucky
Principal Investigator: Carson Nolan
Focus: Pupil Characteristics Materials, Instructional-Methods
Date of Project: 2/1/68 - 1/31/72
Cost: $211,435

Project Number: 8-0144
Title: A System for Compact Storage of Information on Magnetic Tape Readable by Touch as Braille Characters by Means of a Portable Reading Machine
Grantee: Argonne National Laboratory
Argonne, Illinois
Principal Investigator: Arnold P. Grunwald
Focus: Instrumentation
Date of Project: 6/6/68 - 6/5/70
Cost: $100,000

Project Number: 14-2147
Title: An Experimental Home Teaching Program for Preschool Deaf Blind Children
Grantee: Frederic Burk Foundation for Education
San Francisco, California
Principal Investigator: Philip Hatlen
Focus: Pupil Characteristics
Date of Project: 6/1/69 - 11/30/70
Cost: $96,383

Project Number: 31-2028
Title: Proposal to Design, Fabricate, and Evaluate a Braille Learning Aid
Grantee: Bio-Dynamics, Inc.
Cambridge, Massachusetts
Principal Investigator: Charles R. Budrose
Focus: Instrumentation, Materials, Instructional-Methods
Date of Project: 12/1/68 - 11/30/70
Cost: $112,455

Project Number: 32-2108
Title: An Educational Program on Behalf of Blind Infants and Young Children
Grantee: University of Michigan
Ann Arbor, Michigan
Principal Investigator: Selma Fraiberg
Focus: Tests and Measures
Date of Project: 1/15/69 - 1/14/72
Cost: $217,617

Project Number: 42-2134
Title: The Development and Evaluation of a Behavioral Examination of Children with Severe Multiple Disabilities
Grantee: Syracuse University
New York, New York
Principal Investigator: W. Scott Curtis and Edward J. Donlon
Focus: Pupil Characteristics, Tests and Measures
Date of Project: 2/1/69 - 1/31/70
Cost: $39,828

Project Number: 42-2151
Title: Development of Standards and Evaluation Criteria for the Production of Reading Materials for the Blind and Visually Handicapped
Grantee: National Accreditation Council for Agencies Serving the Blind and Visually Handicapped
New York, New York
Principal Investigator: Ray L. Troutman
Focus: Public-Information
Date of Project: 4/1/69 - 3/31/70
Cost: $40,090

Project Number: 56-2154
Title: School-Related Perception in Handicapped Children
Grantee: University of Virginia
Charlottesville, Virginia
Principal Investigator: Elizabeth C. Thomas
Focus: Pupil Characteristics, Tests and Measures
Date of Project: 6/15/69 - 12/15/70
Cost: $9,683

Project Number: 58-2127
Title: Education and Vocational Aids for the Blind
Grantee: West Virginia University
Morgantown, West Virginia
Principal Investigator: Im-Meei Neou
Focus: Instrumentation
Date of Project: 6/1/69 - 5/31/71
Cost: $58,498

Project Number: 6-8477
Title: Application of Research Findings in the Teaching of Listening Skills to Visually Handicapped Children
Grantee: Dominican College,
Blauvelt, New York
Principal Investigator: Sister Jean Marie Rathgaber
Focus: Instructional-Methods
Date of Project: 6-15/66 - 9/30/68
Final Report: Not Available
Cost: $4,100

Project Number: 6-8720
Title: Scales and Procedures for Assessing Social-Psychological Characteristics of Visually Impaired and Hearing Impaired Students
Grantee: Western Michigan University
Principal Investigator: Edsel L. Erickson and Lee M. Joiner
Focus: Pupil Characteristics
Date of Project: 6/1/66 - 5/31/67
Final Report: 1967, ERIC-ED 016 349
Cost: $8,479

Project Number: 6-8925
Title: An Exploratory Study of the Development and High Speech Braille Printer
Grantee: University of California
Los Angeles, California
Principal Investigator: Calvin C. Nelson
Focus: Instrumentation
Date of Project: 11/4/66 - 7/31/67
Final Report: 1967, ERIC-ED 019 809
Cost: $8,109

Project Number: 8-3024
Title: Speed Listening Skill by the Blind as a Function of Training
Grantee: Washington College
Chestertown, Maryland
Principal Investigator: Ellen Rubin and Howard R. Grumpelt
Focus: Materials, Instructional-Methods
Date of Project: 2/19/68 - 7/18/68
Final Report: 1968, ERIC-ED 025 092
Cost: $3,729

Project Number: 6-1190
Title: Computer Translation – Grade 2 Braille from Print
Grantee: American Printing House for the Blind
Louisville, Kentucky
Principal Investigator: Robert L. Haynes
Focus: Instrumentation, Administrative
Date of Project: 6/1/66 - 5/31/69
Final Report: Not Available
Cost: $68,376

Project Number: 6-1928
Title: The Blind Learning Aptitude Test
Grantee: University of Illinois
Urbana, Illinois
Principal Investigator: Ernest T. Newland
Focus: Tests and Measures

(Continued)

Project Number 6-1928	*(Continued)*
Date of Project:	6/1/66 - 4/30/69
Final Report:	Not Available
Cost:	$47,100

Project Number:	6-2464
Title:	Preliminary Standardization of a Scale of Orientation and Mobility Skills of Young Blind Children
Grantee:	California State College at Los Angeles Los Angeles, California
Principal Investigator:	Francis E. Lord
Focus:	Tests and Measures
Date of Project:	10/25/66 - 8/31/67
Final Report:	1967, ERIC-ED 024 198
Cost:	$26,979

Project Number:	6-2975
Title:	Comparison of Several Approaches for Teaching Braille Reading to Blind Children
Grantee:	George Peabody College for Teachers Nashville, Tennessee
Principal Investigator:	Randall K. Harley
Focus:	Instructional-Methods
Date of Project:	10/1/66 - 9/30/68
Final Report:	Not Available
Cost:	$14,971

Project Number:	5-0973
Title:	Study II Effects of Experimental Teaching on the Visual Behavior of Children as Though They Had No Vision
Grantee:	George Peabody College Nashville, Tennessee
Principal Investigator:	Samuel C. Ashcroft, Carol Halliday and Natalie Barraga
Focus:	Tests and Measures, Materials, Instructional-Methods
Date of Project:	6/1/64 - 5/31/65
Final Report:	1965, ERIC-ED 003 089
Cost:	$7,103

Project Number:	5-0980
Title:	Identification of Orientation and Mobility Skills Relating to Developmental Tasks for Young Blind Children
Grantee:	California State College at Los Angeles Los Angeles, California
Principal Investigator:	Clarence E. Manshardt, Georgia Sachs Adams, Marilyn Bailey, and Francis E. Lord
Focus:	Pupil-Characteristics, Instructional-Methods
Date of Project:	6/1/65 - 6/30/66
Final Report:	1966, ERIC-ED 010 388
Cost:	$32,414

Project Number: 5-1050
Title: The Comprehension of Rapid Speech by the Blind
Grantee: University of Louisville
Louisville, Kentucky
Principal Investigator: Emerson Foulke and Ray H. Bixler
Focus: Materials, Instructional-Methods
Date of Project: 3/1/64 - 6/30/68
Final Report: Not Available
Cost: $73,345

Project Number: 6-1179
Title: Comprehension of Full Length and Telegraphic Materials Among Blind Children
Grantee: Michigan State University
East Lansing, Michigan
Principal Investigator: Clessen J. Martin and Lou Alonso
Focus: Materials
Date of Project: 2/1/66 - 1/31/67
Final Report: 1967, ERIC-ED 024 194
Cost: $64,303

Project Number: 5-0440
Title: A Comparison of the Listening Ability of Blind Students and the Listening Ability of Sighted Students in the Intermediate Grades
Grantee: Fordham University
Bronx, New York
Principal Investigator: Francis J. Crowley, Barbara W. Lake and Sister Jean Marie Rathgaber
Focus: Pupil-Characteristics
Date of Project: 6/1/64 - 6/30/65
Final Report: Not Available
Cost: $2,500

Project Number: 5-0667
Title: Development of an Expanded Reading Code for the Blind
Grantee: University of Louisville
Louisville, Kentucky
Principal Investigator: Emerson Foulke and Joel Warm
Focus: Materials, Instructional-Methods
Date of Project: 9/1/65 - 6/30/68
Final Report: Not Available
Cost: $40,343

Project Number: 5-0758
Title: Programmed Learning Materials for the Blind
Grantee: Western Michigan University
Kalamazoo, Michigan
Principal Investigator: George C. Mallinson
Focus: Materials, Instructional-Methods

(Continued)

Project Number 5-0758 *(Continued)*
Date of Project: 1/1/63 - 8/31/66
Final Report: 1967, ERIC-ED 014 193
Cost: $10,112

Project Number: 5-0965
Title: Divergent Thinking in Blind Children
Grantee: University of Kentucky
Lexington, Kentucky
Principal Investigator: William J. Tisdall, Edward A. Blackhurste, and Claude H. Marks
Focus: Pupil Characteristics
Date of Project: 12/1/65 - 11/30/66
Final Report: 1967, ERIC-ED 023 247
Cost: $4,889

Project Number: 5-0332
Title: Methods of Teaching Braille Reading
Grantee: San Francisco State College
San Francisco, California
Principal Investigator: Berthold Lowenfeld and Georgie Lee Abel
Focus: Instructional-Methods
Date of Project: 9/1/64 - 2/28/67
Final Report: 1967, ERIC-ED 012 386
Cost: $77,374

Project Number: 5-0367
Title: School Achievement and Effect of Type Size on Reading in Visually Handicapped Children
Grantee: University of Pittsburgh
Pittsburgh, Pennsylvania
Principal Investigator: Birch, Jack, William J. Tisdall, Ralph Peabody and Robert Sterrett
Focus: Pupil Characteristics, Test-Measures, Instructional Methods
Date of Project: 8/1/63 - 7/31/65
Final Report: 1966, ERIC-ED 010 274
Cost: $80,263

Project Number: 5-0400
Title: Development of a Residential Education Program for Emotionally Deprived Pseudo-Retarded Blind Children
Grantee: Oregon State School for the Blind
Salem, Oregon
Principal Investigator: Mary E. Rigby and Charles Woodcock
Focus: Instructional-Methods, Administrative
Date of Project: 6/1/64 - 8/31/67
Final Report: Not Available
Cost: $172,380

✓ Project Number: 5-0405
Title: Associative Learning Strategies Employed by Deaf, Blind, Retarded and Normal Children
Grantee: Michigan State University
East Lansing, Michigan
Principal Investigator: Clessen J. Martin
Focus: Materials, Instructional-Methods
Date of Project: 6/1/64 - 5/31/67
Final Report: 1967, ERIC-ED 023 208
Cost: $87,026

Project Number: 8-8023
Title: Development of Self-Study Instruments for Use in Accrediating
Grantee: National Accreditation Council for Agencies Serving the Blind and Visually Handicapped, Inc.
New York, New York
Principal Investigator: Geraldine T. Scholl
Focus: Administrative
Date of Project: 4/23/68 - 7/23/69
Final Report: Not Available
Cost: $9,600

✓ Project Number: R-012
Title: Divergent Thinking in Blind Children
Grantee: University of Pittsburgh
Pittsburgh, Pennsylvania
Principal Investigator: William Tisdall, Edward A. Blackhurst and Ma Claude Marks
Focus: Pupil Characteristics
Date of Project: 6/1/64 - 8/31/65
Final Report: Not Available
Cost: $19,380

ALPHABETICAL LISTING OF SPONSORING AGENCY*

Grantee	*Project Number*
American Printing House for the Blind	5-0421, 6-1190, 6-2289, 8-0046
Argonne National Laboratory	8-0144
Bio-Dynamics, Inc. Cambridge, Massachusetts	31-2028
California State College	5-0980, 6-2464
Columbia University	7-0701
Cybernetics Research Institute	7-0533
Dominican College	6-8477
Fordham University	5-0440
Frederic Burk Foundation for Education San Francisco, California	14-2147
George Peabody College for Teachers	5-0973, 6-2975
Kansas State Department of Public Instruction	5-0963
Michigan State University	5-0405, 6-1179
National Accreditation Council for Agencies Serving the Blind and Visually Handicapped (New York)	8-8023, 42-2151
Pseudo-Retarded Blind Children (Salem, Oregon)	5-0400
San Francisco State College	5-0332
Southern Illinois University	7-1167
Stanford University	7-1112
Syracuse University	42-2134
University of California	6-8925
University of Illinois	6-1928
University of Kentucky	5-0965
University of Louisville	5-0667, 5-1050, 7-1185, 7-1254
University of Michigan	32-2108
University of Pittsburgh	R-012, 5-0367
University of Virginia	56-2154
Washington College	8-3024
Western Michigan University	5-0758, 6-8720
West Virginia University	58-2127

**U.S. Office of Education Projects.*

U.S. VETERANS ADMINISTRATION, PROSTHETIC AND SENSORY AIDS SERVICE RESEARCH ON AIDS FOR THE BLIND

Eugene F. Murphy, Ph.D.
Chief

Prepared by: Howard Freiberger
Electronics Engineer

Research and Development Division
Prosthetic and Sensory Aids Service
Veterans Administration
252 Seventh Avenue
New York, N.Y. 10001

This summary was prepared April 15, 1970 for use in the AAWB Annual. The data are supplementary to similar materials appearing in earlier issues of the Annual. Only active projects are mentioned here. The "Total Cost" entry shows the cumulative cost from the inception date indicated to January 15, 1970. The "FY '69 Cost" is the amount expended between July 1, 1968 and June 30, 1969. These costs, representing reimbursements to research contractors, are not always the same as obligations of funds to be made available to the contractors.

Continuation Projects

PROJECT NUMBER	IDENTIFICATION DURATION AND COST	ACTIVITY ADDRESS	PRINCIPAL PERSONNEL	PURPOSE
V1005M-1253	Outputs for Reading Machines 4/1/57 to present Total Cost: $386,110 FY '69 Cost: $52,417	Haskins Laboratories, Inc. 270 Crown Street New Haven, Connecticut 06510	F. S. Cooper, Ph.D. J. Gaitenby	To study audible outputs for reading machines for the blind and to develop the psychoacoustic, linguistic, phonetic, electronic, and mechanical details necessary to achieve a first-rate output, i.e., some form(s) of machine-made speech not too different from natural speech.
V1005M-1914	Sensory Aids Subcommittee 3/31/65 to present Total Cost: $12,500 FY '69 Cost: $1000	National Academy of Sciences 2101 Constitution Ave., N.W. Washington, D.C. 20037	Dr. R.E. Hoover Chairman A.B. Wilson, Jr. Exec. Director CPRD	To provide advisory and consulting services regarding research programs in aids for the blind and for the deaf. To arrange meetings of specialists in appropriate fields and to publish minutes.

Continuation Projects (Continued)

PROJECT NUMBER	IDENTIFICATION DURATION AND COST	ACTIVITY ADDRESS	PRINCIPAL PERSONNEL	PURPOSE
V1005M-1943	Personal-Type Reading Machines 9/12/58 to present *Total Cost: $831,334 FY '69 Cost: $111,414 *Includes $74,905 for 30 Visotoners and 10 Visotactors delivered to VA in 1969.	Mauch Laboratories, Inc. 3035 Dryden Road Dayton, Ohio 45439	H.A. Mauch G.C. Smith	To develop a reading machine for the blind which is relatively portable, capable of independent use at higher reading speeds than possible with the optophone, and sufficiently low in cost that it may be acquired by an individual blind person. A prototype of the recognition machine with spelled-speech output was operated successfully in 1968. Three advanced models called Cognodictors are to be delivered for evaluation in 1970. Optophone-type developments have also resulted from this work. The Visotoner with audible output, and the Visotactor "B" with tactile output are examples. A multicolumn tactile instrument called the Digitactor is in the planning stage.
V1005M-9217	Obstacle Detectors for the blind 6/6/61 to present *Total Cost: $306,247 FY '69 Cost: $4,128 *Includes $45,000 for 10 Laser Typhlocanes delivered to VA in 1969.	Bionic Instruments, Inc. 221 Rock Hill Road, Bala Cynwyd, Penna. 19004	J.M. Benjamin T.A. Benham D.R. Bolgiano N. Ali	To construct a typhlocane employing filament-reinforced materials of superior mechanical properties, and fitted with three gallium arsenide laser systems: one to probe space ahead at the head and shoulders height to give warning of impending overhanging obstacles: a second to range ahead to give early warning through a tactile indicator of obstacles beyond cane reach: the third to monitor the terrain to give early warning of large dropoffs like stairwells and platform edges. A first operating model was demonstrated in Dec. 1966, an improved two-section collapsible model was built in 1967, and ten of the latest model were delivered in 1969 for use in a mobility application test program. Some work is also being done on use of new mate-

PROJECT NUMBER	IDENTIFICATION DURATION AND COST	ACTIVITY ADDRESS	PRINCIPAL PERSONNEL	PURPOSE
V1005M-1943 *(Cont'd)*				rials for ordinary and collapsible nonelectronic typhlocanes. An eyeglass mounted optical-system mobility aid is in the planning stage.
V1005P-365-A	Optophone trials 10/15/64 to present Total Cost: $13,336 FY '69 Cost: $389	Amer. Cent. for Research in Blindness and Rehabilitation 770 Centre Street Newton, Mass. 02158	L.H. Riley, M.D.	To determine the performance attainable by blind individuals with optophones.
V1005P-376-A	Evaluation of the Kay Guidance Device 5/11/65 to present Total Cost: $55,269 FY '69 Cost: $5,854	Amer. Cent. for Research in Blindness and Rehabilitation 770 Centre Street Newton, Mass. 02158	L.H. Riley, M.D.	To evaluate the ultrasonic aid for the blind developed by L. Kay, Ph.D. and built in 1964 by Ultra Electronics Ltd., London, England. The closely controlled phases of this evaluation have been completed and reported on in 1966. Currently a report is being compiled on the post-1966 work done under less structured conditions in home and field.
V1005P-977-A	Correspondence Courses - Training of Blind and/or Deaf-Blind 8/18/67 to present Total Cost: $8,180 FY '69 Cost: $2,925	Hadley School for the Blind 700 Elm Street Winnetka, Illinois 60093	D.W. Hathaway M. Butow	To develop and validate correspondence courses for training of blind and/or deaf-blind persons in the use of personal-type reading aids.
V1005P 5321	Spelled Speech 11/1/60 to present Total Cost: $58,479 FY '69 Cost: None	Metfessel Laboratories P.O. Box 43164 Los Angeles, Calif. 90043	M.L. Metfessel, Ph.D. (Deceased) C. Lovell, Ph.D.	To develop an audible output for a reading machine for the blind operable on a letter-by-letter basis. The final contract-termination report has not yet been completed.

Continuation Projects (Continued)

PROJECT NUMBER	IDENTIFICATION DURATION AND COST	ACTIVITY ADDRESS	PRINCIPAL PERSONNEL	PURPOSE
INTRA-VA	Staff work in VA R&D Div., PSAS	Research and Development Division Prosthetic and Sensory Aids Service 252 Seventh Avenue New York, N.Y. 10001	E.F. Murphy, Ph.D. H. Freiberger	The work of the Division includes INFORMATION DISSEMINATION (Papers in professional journals, correspondence with others in the field, maintenance of a reference collection, bibliographic activity, publication of a bulletin, arranging conferences, presenting talks) CONTRACT SUPERVISION, and limited in-house RESEARCH.
INTRA-VA	Clinical Application Program in Reading and Mobility Aids for the Blind 7/1/67 to present Total Cost: $28,668 FY '69 Cost: $11,863	Central Rehabilitation Section for Visually Impaired and Blinded Veterans VA Hospital Hines, Ill. 60141	J.D. Malamazian H.L. Lauer	To transfer research results to clinical practice as rapidly as feasible; to train veterans and staff in the use of these new devices; to obtain information about the devices to aid in improving new designs.

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Mattingly, Ignatius G., and Alvin M. Liberman, "The Speech Code and the Physiology of Language," in K. N. Leibovic, Ed., "INFORMATION PROCESSING AND THE NERVOUS SYSTEM," Springer-Verlag, pp. 97-117, 1969. [Also in Haskins Labs. Status Report on Speech Research SR-15/16 pp. 9-37, July-December 1968.]

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V1005M-9217 Benjamin, J. Malvern Jr., and Howard Freiberger, quoted in "VA Optimistic About Safety of Laser Cane for the Blind," Laser Focus, Vol. 5, No. 13, pp. 24, 26, July 1969.

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Freiberger, Howard prepared an unsigned paper, "Research and Development in Aids for the Blind Sponsored by the Prosthetic and Sensory Aids Service (PSAS), Veterans Administration (VA)," 77 pp. mimeo, October 1969.

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Murphy, Eugene F. prepared an unsigned paper "Sensory Aids for the Blind, Definition of Needs from the Viewpoint of the Research and Development Division, Prosthetic and Sensory Aids Service, Veterans Administration," 4 pp. mimeo, c. October 1969.

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